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CHARACTERISTICS OF
ACADEMIC WRITING IN EDUCATION

by

ANDREW THOMAS KEMP
B.A. University of South Florida, 1991
M.Ed. South Dakota State University, 1996

A dissertation submitted in partial fulfillment of the requirements
for the degree of Doctor of Education in Curriculum and Instruction
in the College of Education
at the University of Central Florida
Orlando, Florida

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Major Professor: E. Lea Witta

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I would like to dedicate this dissertation to my wife, Amy, for her unending dedication and help in the completion of this dissertation, the contribution to my studies and the care of our family. Without her, this would not have been possible. Her selflessness during these long and trying times have not only made me realize the importance of this work, but our relationship and our family. For this I give my thanks.

ABSTRACT

According to Stangl (1994), Jalongo (2002), Richards and Miller (2005) and a host of other authors regarding publishing in educational journals, understanding the audience for an article is of utmost importance. Huff (1999) notes that an author must understand the audience for whom s/he writes. While much of this understanding of audience comes down to suitable topics (Silverman, 1982), articles must also fit the style of the journal to which it is being presented (Olsen, 1997). With this in mind, the purpose of this study is to characterize the writing style of academic writing in education. This research will involve exploring and analyzing various education and research journals and through an analysis of individual education articles to delineate the writing style for academic writing in education. By looking at the various components of writing style, a writing style or various writing styles found in scholarly writing in education was determined. It was found that there is a definite style in academic writing in education with two other distinct subsets—journals associated with specific associations and journals with a purely quantitative focus. It is suggested that specific curriculum and instruction in writing style be added to the current study of research.

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CHAPTER ONE: INTRODUCTION

In the 1883 edition of School Management and Methods of Instruction, J.V. Coombs states:

No thoughtful person will undertake a work of great importance without first making due preparation for its successful completion. If a house is to be built, a canal constructed, or scene painted, it requires preparation. The artist first forms his ideal, secures his materials and then portrays on the canvas the wonderful image by harmoniously mingling the various colors with lights and shades. Without preparation and a well conceived plan he could have accomplished nothing. (p. 11)

Although this quote is highly figurative, the message is clear. In order to find success in any endeavor, an individual must have the highest level of preparation. According to Coombs, the ‘artist’ secures the materials necessary for success. For writers, those materials include information, style and form. In educational writing, and scholarly writing in general, numerous avenues are available for acquiring information on how to be successful. Works on educational writing and publishing, dissertation writing and publishing, scholarly writing and publishing, and major style guides such as the Publication Manual of the American Psychology Association and The Chicago Manual of Style are widely available. However, through all of these guides and primers, little information on what constitutes good writing is offered, explained or delineated with any degree of thoroughness. As Ladson-Billings and Tate (1999) note in the inaugural issue of their editorship of the *American Educational Research Journal*, “It has become clear to us that many prospective authors do not understand fully the educational research process,” (p. 45) In this vein, the purpose of this research is to investigate what constitutes the style of academic writing in education.

Background and Significance

As a doctoral student, one thing has been made perfectly clear to me over the course of my doctoral education—publish or perish. To be a professor, you have to publish. This advice is not a suggestion or guideline; it is a mandate. As far as doctoral education goes, understanding the importance of writing and publishing dominates any conversation regarding higher education. According to Golde and Dore (2001), almost 48% of doctoral students view a position as a professor as their ultimate goal. I see professors struggling with developing their publishing record in order to earn tenure. I have worked hard on my own publication record so that when I apply for professorial positions I can show that I can belong to the “club.” With this much focus on writing and publishing, it would make logical sense that writing is a key component in doctoral work. In a way it is. Doctoral students write in every class. Doctoral students write research papers. Doctoral students compose theoretical papers. Doctoral students produce analytical papers. Doctoral students develop practical papers ranging from curriculum design to instructional design. Doctoral students write and write and write.... However, little actual instruction in writing actually occurs. Delyser (2003) notes that for many thesis and dissertation writers the last time a class in writing was taken was during the first year of college, generally in a freshman composition class. In fact, she continues by stating, “...they [graduate students] are *under-prepared* in the skills and techniques that will enable them to present their findings effectively, to communicate the insights of their research....No one taught them how to write” (italics in original text, p. 169). This statement encapsulates the enormity of the ability to effectively communicate in written discourse.

Likewise, Kamler and Thompson (2004) note that in many cases doctoral students are

reluctant writers in a time in which writing, "...is so central to the research process that we can conceive doctoral research as writing" (p. 196). They suggest that although most of the work that doctoral students do is focused on writing, most of the advice given to students, at worst, completely ignores writing, and at best, glosses over it.

In a 2002 study, D'Andrea found that one of the major reasons why doctoral students quit their respective programs was that they had difficulty in planning and writing. In a 1987 study, Golding and Mascaro, after surveying one hundred and forty-four universities, found that ninety-three universities did not offer any type of graduate writing courses across the disciplines. With this in mind, an investigation of what constitutes educational writing is desperately needed.

While writing is the key component for much of the assessment in doctoral programs, instruction in writing is lacking. Yes, there are guidebooks like the *Style Manual of the American Psychological Association* and the *Chicago Book of Style*. Apart from these manuals, courses in research and writing are offered, although most of the focus is on research. There are books that explain how to organize ideas, how to work with publishers and agents, how to market your papers, how to select appropriate journals and other bits of valuable information (Huff, 1999; Jalongo, 2002; Stangl, 1994; Thyer, 1994 are examples). Riebschleger (2001) suggests that while many of the books about dissertations contributed to her understanding of how a dissertation was organized, none of them told her how to write. This finding implies that while it appears that an abundance of literature is seemingly available, little information on how to actually write has been produced. Because of the lack of pertinent information on this type of writing, any consideration of style might elicit a number of relevant questions. What should sentences look like? How long should they be? How should you structure your language? What are the characteristics of good writing? In virtually all of the literature on educational, academic

and scholarly writing, writing style is conspicuously overlooked.

This research will focus on one particular type of academic writing—educational writing, particularly the writing style found in scholarly writing in education. Unlike many content areas, educational writing can cover any area from biology to economics, from literature to history, from curriculum to instruction. Why? Educational writing is a conglomeration of virtually every subject through the lens of education. Because of this diverse nature of educational writing, hundreds of outlets for publication and a plethora of opportunities to write are available. Educational writing spans from qualitative to quantitative, from theory to fact, from empirical research to philosophy of education. With all of the possibilities for writing in education, it is essential, almost imperative, that information on how to write better for educational journals is available.

As suggested earlier, a search for information on academic writing in education is a seemingly futile task. While there is general information available on scholarly or academic writing, articles and books that are specific to the topic of educational writing are infrequently found. However, even within the context of academic and scholarly writing, the availability of information regarding the type of writing necessary for success is limited. Although there is a seemingly voluminous collection of literature on scholarly or academic writing, when analyzed, it is readily apparent that the content of this literature has little to do with writing style.

Even scarcer is information on the style of educational writing. Because of this, academic writing in education will be viewed in two ways throughout this research. First, the construct of academic writing in education will be examined. For the purposes of this research, academic writing in education will be defined through an analysis of the literature of scholarly and academic writing in education, dissertation writing in education and thesis based writing in

education. This review will create the foundation for a review of examples of academic writing in education. The second focus will be on peer reviewed journals in education. The first focus, the types of writing, will more clearly delineate the expectations of high quality writing in education. The second will show the product created by this type of writing. By combining these areas, a clearer definition of the qualities of academic writing in education will be derived.

A Need for New Research

Because there is a dearth of information available on what constitutes publishable quality educational writing, new research is necessary to more clearly delineate the components of publishable educational writing. In order to achieve this goal, educational writing must be viewed in terms of its structure and the language that is consistently used in educational discourse. However, because of the lack of domain specific information regarding academic writing in education, this discussion will include many of the parameters that encompass general scholarly writing for publication. Because of this, it is interesting to note that while there are a few tools that focus on the components of writing style (Cho, 2003; Gibson, 1966; Horn, 2004; Michels, 2005; Sasaki & Hirose, 1999), little, if anything at all, has been done to analyze the particular components of any particular academic writing style, let alone any specific educational writing style.

In order to fully evaluate the writing style of academic writing in education, an instrument was created to record the various components of writing style based on available sources in academic writing, scholarly writing, and educational writing.

Writing Style

In the opening chapter of *Prose Style—A Handbook for Writers*, Stone and Bell (1972) note, “Writing takes place in an environment, in a context, and the writer who ignores the context is likely to end up speaking some sort of private language” (p. 4). This brief comment on style illuminates a key point to this discussion. Understanding the context or audience of any writing endeavor is essential. Although Stone and Bell previously noted that each writer must find his/her individual voice, understanding the audience and context of the communication is essential. With this in mind, the purpose of this study is to understand the audience and context of the writing style of educational journals. In essence, each author must understand the context or audience for which s/he writes. While the following description of style analysis is obviously not exhaustive, the following works provide a clear portrait of the characteristics of found in writing. Any search of a library database will produce in excess of fifty articles on writing style. Therefore, this brief definition is based on texts that include a concise description of writing style analysis and the major components of writing style that might be addressed in a stylistic analysis.

In the earliest study of classical rhetoric, one of the five canons of rhetorical discourse was called *elocutio* or style. According to Corbett and Connors (1999), there are four different areas that should be addressed when analyzing prose style—diction, syntax, figures of speech and paragraphing. The first, diction, refers to the choices that an author makes in the choice of words used. Although Corbett and Connors have a more complex definition of diction, essentially, this type of analysis focuses on the decisions that an author makes regarding the type of words used. The second area of style, syntax, is more complex in its construction. Corbett and Connors break down syntax into four distinct areas: length of sentences, kinds of sentences,

variety of sentence patterns and sentence flow. The combination of these components of syntax constitutes the variety of syntactical choices that an author could make. Corbett and Connors then address the inclusion of figurative language and the use of figures of speech to create meaning. Finally, the authors focus on paragraphs. Specifically, they note that the length, development and transition of paragraphs are important parts of style.

Wilbers (2000) reiterates this basic premise in *Keys to Great Writing*. He defines style as comprising five significant areas: economy, diction, action (verb use), sentence variety and personality. While differing from Corbett and Connors in a couple of areas (namely economy of language and the personality of the writer), Wilbers also suggests that diction and syntax are essential to any definition of style. Wilbers adds the notion that verb choices, namely the use of the active and passive voice, also are essential parts of style.

While this definition is limited to these two works, virtually all texts on writing style include various definitions that mirror those of these authors. These two instances were chosen because of the careful delineation the authors used in creating writing style analysis procedures. Perhaps a more simple way of stating this would be in the words of Klausmeier (2001), “Writing style refers to the manner in which authors convey their ideas to readers” (p. 15). For this study, writing style will consist of the measurable areas of diction, syntax, figurative language, voice and paragraph length. This brief definition of style, which is expanded upon later, has been refined so as to make a quantitative analysis possible.

Statement of Purpose

The purpose of this dissertation is to characterize the writing style of academic writing in education. A style instrument will be used to record the various stylistic components of

individual examples of educational writing in order to develop a standard of academic writing in education. Although it has been proposed that this study will only investigate academic writing in education, one additional journal (Structural Equation Modeling) was included in the analysis because of its strong foundation in psychology and the social sciences. This journal was added because of the highly quantitative nature of the research it includes.

This project will involve two steps. The first step will be to record the various characteristics found in the writing style of various academic journals in education across a number of different categories of academic writing in education. The second will be to statistically analyze these categories to develop a clear view of what constitutes academic writing in education. This comparison will look for similarities and difference in various journal types and to define commonalities across the various types of journals and to define domain specific characteristics of others. The data will be analyzed to find similarities, differences, trends and to develop the various factors of academic writing in education.

Research Questions

The following research questions will be addressed in this study:

- (1) What are the discernable and general characteristics of academic writing in education?
- (2) Is there a difference in writing style across, among and/or between various types of academic journals in education?
- (3) And, what are the writing style criteria of academic writing in education?

Key Definitions

In order to ensure clarity and conciseness, the following definitions were used in this study.

Academic writing in education. The style of writing found in academic and scholarly journals in education, dissertations and Master's theses in education and other professional publications in education.

Scholarly writing. The style of writing found in professional academic publications, dissertations, Master's theses and other professional publications throughout academia.

Passive voice. The use of structures that put the focus of the sentence on the object of the action rather than the subject.

Acronym. The use of letters to represent phrases or titles.

Figurative language. The use of language that is not literature for the purpose of increasing the understanding of the audience toward a new or novel idea.

First person. The use of 'I' or 'We' as the subject of a sentence.

Second person. The use of 'you' as the subject of a sentence.

Simple sentence. A sentence that has only one main independent clause.

Compound sentence. A sentence that is made up to two or more main independent clauses.

Complex sentence. A sentence that is made up of at least one independent clause and one dependent clause.

Compound/complex sentence. A sentence that has at least two independent clauses and one dependent clause.

Periodic sentence. A sentence in which the subject is found at the end of the sentence

Loose sentence. A sentence in which the subject is found at the beginning of the sentence.

Declarative sentence. A statement of fact, opinion, feeling or intent.

Interrogative sentence. A question.

Imperative sentence. A command to complete an action.

Exclamatory sentence. A sentence that expresses a strong feeling and ends with an exclamation point.

Reference. A citation or indication of information gained from another source.

Delimitations of Study

This study is limited to the sixteen selected journals. Although they are widespread in both scope and perspective, they are only a portion of the overall landscape of academic writing in education. In addition, only objective measures are being assessed. Because of this, some variables were eliminated from consideration because of the necessity for subjective decisions to be made as to the presence of certain characteristics. A pilot study of the instrument was conducted in order to ascertain the objectivity and subjectivity of various components of the instrument. Based on this pilot study a few variables were eliminated.

For this same reason this study only addresses writing style. In no way does it attempt to assess content. Finally, this study only analyzes the first five paragraphs of each article. This decision was made to ensure that a representative sample of the writing style was assessed. Other sections of articles (i.e. literature reviews, data analysis, statistical findings, etc.) rely on

summary, specific grammatical constructions that are considered acceptable (data analysis and statistics) or other forms of writing that might not show the writing style of the author(s).

Limitations of Study

One of the primary problems with a study of this kind is that there is little precedence for its structure. It has not been done before. Therefore, many of the assumptions made are based on the literature and not on precedent for this type of research. In addition, because there are literally hundreds of academic journals in education, the selection of the journals for this study will only reflect a small sample of what constitutes academic writing in education. Finally, the instrument created for this study will need to be tested in a pilot study in order to validate the inclusion of the various parts of the instrument.

Assumptions

It is assumed that the instrument created will accurately reflect the components that define writing style. This assumption is based on a review of the literature along with an analysis of the few writing style assessment instruments available. In addition, it is assumed that because the journals selected are widely read and respected, each is representative of the type of academic writing in education as classified.

Design of the Study

A random sample of journal articles were selected from each of the selected sixteen academic journals in education from the last five years. Journals were broken into six categories:

discipline journals, association journals, evaluation journals, qualitative journals, quantitative journals and university journals. Twenty articles were chosen to represent each category. The number of articles per journal was based on the number of journals per category. If two journals were in the category, ten articles were randomly chosen from each. Likewise, if four journals are used, five articles were randomly selected for each. No other combinations were possible. The total number of articles from each of the selected journals were calculated and a random number generator were used to take a random sample of articles. The specific journals were more clearly delineated in the methodology section of this proposal. From these articles the first five paragraphs of the article, not including the abstract, were analyzed for writing style using the new instrument created for this purpose.

The data collected were analyzed for similarities, differences and trends in order that a definitive writing style can be established between or among the various journals and journal types. This exploratory study will characterize the style of academic writing in education.

Data Analysis

Data were analyzed using descriptive statistics to suggest the general patterns for each individual journal and journal category. In addition, an Analysis of Variance (ANOVA) was used to find the similarities and differences in the various types of journals. Because of the different categories, it was determined that an ANOVA would be the most appropriate means of statistical analysis to investigate the similarities and differences between and among the various categories of academic writing in education.

Significance of the Study

This study is intended to define the characteristics of writing style for academic writing in education in order to allow scholars and potential scholars to write in a manner consistent with the particular audience sought. The information produced by this research could be incorporated into a fundamentals of graduate research courses as a means of developing higher quality writing that is representative of academic writing in education. In addition, by more clearly describing the characteristics of academic writing in education, university professors will be able to appropriately select professional articles for students to read based on the difficulty of the writing and the ability of the student.

CHAPTER TWO: LITERATURE REVIEW

Introduction

Literature purely on the style of academic writing in education is limited. Few journal articles on scholarly writing in education, few ERIC documents and few books on the subject have been published. It appears that information on writing for publication is more generic and written for a wider audience. Because of the importance of publishing in academia, the fact that information is inadequate is in itself is puzzling. With the necessity of publication for the professoriate in general, but in this particular case, the discipline of education, a case could be made that information on academic writing in education would be not only an essential tool, but should be an abundant commodity. However, this is not true. Therefore, this review, while primarily focusing on the particular type of writing central to this study, will also include the general literature on publishing in academia.

Most, if not all, information on scholarly writing and publishing has a strong focus on knowing your audience (Gargiulo & Jalongo, 2001; Glatthorn, 2002; Jalongo, 2002; Kitchin & Fuller, 2005; Thyer, 1994; Van Til, 1986) or writing in a professional style (Moxley, 1992; Moxley & Taylor, 1997). In order to best review the literature on educational writing, the literature has been divided into five sections. The first section addresses the general concept of scholarly writing and the notable aspects of style in this literature. The second section deals directly with educational writing in the context of writing that is primarily focused on non-scholarly writing, the publication of teaching ideas for practitioners, and the writing of practitioners. This review of educational writing will consist of an individual look at each work

and its contribution to this particular style of educational writing. The next section deals with changing educational writing for the purposes of increasing the size of the audience and working toward a different purpose. The fourth section will be a discussion of dissertation and thesis writing. This review will conclude with a substantive discussion of the current instruments available regarding writing style.

Scholarly Writing

Perhaps the most basic look at scholarly writing should address the basic question, “What is considered great scholarly writing?” Wellington and Torgerson (2005) delineate what is considered to be high status and eminent writing. While not addressing the issue of writing quality, Wellington and Torgerson note that there are five categories that relate to high quality, scholarly writing. First, a journal should be refereed. Second, a journal should have a respected editorial board accompanied by respected actions and policies. Third, the reputations of the authors should be well known. Fourth, the content of the journal should be high quality. Finally, the users of the journal should coincide with a high readership in higher education. Based on these criteria, Wellington and Torgerson suggest that the following journals in the United States that fit this description include: (1) *Harvard Educational Review*, (2) *Educational Researcher*, (3) *Review of Research in Education*, (4) *Phi Delta Kappan* (5) *Teachers College Record*, and (6) *American Educational Research Journal*. Although this list is unimportant to the review the components of scholarly writing style, noting these journals at this point suggests the quality of writing that is considered exemplary in educational writing. In addition, when decisions were made regarding the selection of journals, this information was taken into account.

Based on these guidelines for high quality journals, it could be extrapolated from Wellington and Torgerson's definition that scholarly writing is predominantly for publication in venues with a particular audience of readers in higher education. While there are other types of writing for different audiences and purposes (i.e., journalistic writing, editorial writing, writing for entertainment, etc.), scholarly writing should be considered writing of high quality with the intent of publication in journals refereed by peers. According to Huff (1999), the primary goal of scholarly writing is to contribute to the canon of scholarly work in a subject.

Before delving into this review of scholarly writing, it should be noted that there is an abundance of literature that, while seemingly addressing the different aspects of style, offers no discussion style whatsoever, instead focusing on issues ranging from how to find a publisher (Casanave, & Vandrick, 2003; Silverman, 1998), issues with statistics (Carver, 1984; Kupersmid & Wonderly 1994;), agents and contracts (Benjaminson, 1992; Silverman, 1998), the components of publishing (Benjaminson, 1992; Carver, 1984; Casanave, & Vandrick, 2003; Kupersmid & Wonderly 1994; Silverman, 1998), how to write a proposal (Benjaminson, 1992; Silverman, 1998) and a plethora of other issues. There is no mention of writing style. While these books have great merit for their own particular purposes, the purpose of this study is to address scholarly writing.

Aside from the analysis of the quality of journals and this brief foray into the non-stylistic aspects of scholarly writing, it is important to address an essential aspect of scholarly writing—the process of publication. To introduce this topic a look at the process is important. Jackson, Nelson, Heggins, Baatz, and Schuh (1999) suggest that writing for publication can be helped by understanding the process. With regard to this review, they note that there are few graduate programs that offer courses that deal with the publishing process or the nature of academic

publishing. They do note that it is important that any prospective author understand his/her audience and write accordingly. In addition, they offer the vague advice to follow the appropriate style manual for the particular publication.

More specifically, Ralph (2002) offers what would one would assume to be more specific advice on the publishing of manuscripts. However, despite the title, “Practices To Improve Your Chances For Success When Submitting Research Articles To Academic Journals,” this article focuses more on the importance of knowing the audience, the type of journal in which to publish (especially if the author is a novice), and following the style of the journal. Again, there is little help in addressing the particular style of the journal with the exception of understanding the audience.

Thompson (1993), in an article titled, “Publishing Your Research Results: Some Thoughts and Suggestions from an Author who is Also a Publisher,” rehashes many of the same ideas of the previously mentioned authors. There are suggestions that a prospective author should know his/her audience, should target an article to a specific journal, and should attend to the details that are specified for publication and other similar observations. However, as noted previously, this editor specifies that writing quality is critical. He suggests that rejection rates are high for most journals. Poor writing diminishes the chances for publication. Davis and Sink (2001) reinforce this argument by suggesting that one of the primary reasons that manuscripts are rejected is because of language use. Again, this suggests that knowledge of good writing is critical to publication, however, as intimated previously, finding specific information on how to write is limited. Davis and Sink’s final advice is that the best way to understand style is to read a style manual.

Perhaps the greatest contributor to scholarly publication is Kenneth Henson (1993, 1997, 1999a, 1999b, 2001, 2005). With over one hundred articles published on grant writing and writing for publication, Henson might be considered the preeminent expert on the publication process. However, as far as writing style goes, there is little mention of style. He goes into detail about understanding the quality of journals, the publication rates, understanding criticism and making adjustments. Henson does note that you should know your audience and you should pay attention to the writing style of the journal (Henson, 1999a; Henson 2001). His only mention of writing style occurs when he states that an author should write concisely (Henson, 1999a). Aside from this, there is little other mention of style.

Perhaps the best example of writing about scholarly writing, especially dealing with writing style, is provided by Huff (1999). Huff notes a few particulars that are important to scholarly work. An author should focus his/her style on:

- Short sentences
- Present tense
- Active voice
- Simple constructions
- Little repetition of words (p. 73)

Huff continues by noting that it is important to pay attention to sentence complexity and the length of examples that are used.

Finally, in order to solidify the expectations of writing style in scholarly writing, a review of the guidelines of the Publication Manual of the American Psychological Association and the Chicago Manual of Style is necessary.

It is interesting that while both of these highly regarded and highly utilized style manuals are considered the final word regarding academic writing style in the social and

behavioral sciences, neither has a great deal of information on writing style. Most of the content is on the structure of the paper, construction of tables and figures, references and citations and basic grammar. There is little information on writing style. Since the Publication Manual of the American Psychological Association is the style guide used primarily in education, it will be examined first.

Out of the more than 430 pages of the Publication Manual of the American Psychological Association, only eight are devoted to writing style. While not listed in the following manner, the style tips are as follows:

- Use the past tense or the present-perfect tense;
- Avoid noun strings;
- Try to use short words and short sentences when possible;
- Avoid jargon;
- Avoid wordiness;
- Avoid redundancy;
- Vary sentence length;
- Use specific language;
- Avoid colloquial expressions;
- Avoid pronouns such as, 'this, that, these and those';
- Avoid illogical or ambiguous comparisons;
- Avoid third person references when referring to yourself;
- Avoid anthropomorphism;
- Avoid the editorial 'we'.

Aside from these points, there is nothing regarding writing style.

On the flip side, the Chicago Manual of Style offers nothing about writing style, focusing more specifically on grammar, spelling and mechanics.

In summary, most of the information on scholarly writing and publication focuses on two major areas: understanding for and writing toward a specific audience and making sure that the writing in question is suitable for the publication. While the APA Manual does offer some specific suggestions for writing style, these suggestions are limited in their scope and breadth.

Educational Writing and Writing Style

As noted previously, scholarly writing is predominantly for publication in venues with a particular audience of readers in higher education. In particular, scholarly writing in education is a contribution to the scholarship in education dealing with issues ranging from curriculum to instruction, from policy to practice, from particular disciplines to general philosophies.

Academic writing in education can be quantitative, qualitative, or mixed methods. Because the general conception of education composes the framework for any particular topic, the content spans a wide range of topics and disciplines. Journals can range from English Education to Science Education, from Educational Theory to Educational Leadership. Journals specific to this study are addressed elsewhere in this study. Once again, scholarly writing in education should be considered writing of high quality with the intent of publication in journals refereed by peers.

Before addressing any works on educational writing, perhaps the first place to look for information on educational writing style would be from one of the largest publishers of educational materials in the United States, the Department of Education. Ohnemus and Zimmermann (2001) published the “Guide to Publishing at the U.S. Department of Education” for the Department of Education. This publication guide makes great mention of organization, printing, placement of seals, copywriting and the legalities for government publications. The only mention of style involves the capitalization of ethnic terms. The guide also suggests the use of the Chicago Manual of Style and the American Psychological Association Publication Manual. All in all, there is no mention of writing, only publication features.

In, “Thinking and Writing for Publication: A Guide for Teachers,” Wilcox (2002) suggests that her work is a “how-to” guide for teachers to develop a friendly tone to their writing.

Again, like the U.S. Department of Education manual, most of this guide is devoted to the organization of writing, how to submit articles and book reviews and how to develop good writing habits. The idea of good writing habits focuses primarily on finding the time to write and developing the habit of writing. In addition, Wilcox's guide suggests that there are exercises to develop writing skills. However, all of these are directed at reflective writing and making writing a personal endeavor. Neither of these guides gives any guidance on how to write.

Gargiulo and Jalongo (2001) give the viewpoint of editors for writing for publication, in this case, specifically for early childhood education. Perhaps their biggest piece of advice is to make sure they are writing for the correct audience. They make many suggestions regarding finding out about a journal's content, publication format, submission policies and review processes. They close by listing twelve suggestions for becoming a published author. Ten of these have nothing to do with the components of good writing or with writing style. However, there is a passing mention of writing when they state, "Accept full responsibility for a carefully crafted manuscript rather than expecting others to 'clean up' a flawed manuscript for you," (p. 21) and, "Read articles and books for style and seek out books that will help to improve your writing instead of always focusing on the content." (p. 21) Note that both of these suggest the importance of good writing, yet give no particular guidance. This illustrates that the most important aspect of good writing is the focus on understanding that style is important.

Algozzine, Spooner and Karvonen (2002) offer information on preparing special education articles in APA style. The vast majority of this article focuses on the different sections that should be included, their approximate lengths and their content. This work does, however, offer the only guidance in writing style of any of the aforementioned articles. They suggest that authors should remove any biased language from their writing. They also suggest that APA style

generally accepts the wording an author provides unless it is unclear. This is of great importance, because as Gargiulo and Jalongo (2001) noted, “A common error of aspiring writers is failure to target their article to the journal’s audience.” Therefore, understanding the audience is essential. Again, the literature suggests that the style of the writing is important. However, there is virtually no literature regarding what this particular style is.

Aside from the previously mentioned articles that have been printed regarding educational writing, there are also a few books that are devoted specifically to this subject. Each is a compilation of ideas with the intention of giving information on how to get published. Like the other literature in this field, there is little information on writing style aside from suggestions on style guides and writing books.

It is in these guidebooks, mentioned in the introduction to this section on scholarly writing, that information on educational writing style can be found. Although there is no outpouring of information, there are some helpful clues as to the style necessary for educational writing within this specific domain. Admittedly, looking at these three books, it is obvious that most of the space is devoted to the act of publishing. Out of the approximately six hundred and twenty pages of combined text, five pages are devoted to style. Most of the space is dedicated to the business of writing (Jalongo, 2002; Stangl, 1994), organizing ideas and finding time to write (Jalongo, 2002; Richards & Miller, 2005; Stangl, 1994), how the writing process works (from idea to book) (Jalongo, 2002; Richards & Miller, 2005; Stangl, 1994), the types of journals that are available (Stangl, 1994), strategies of successful writers with regards to the process (Jalongo, 2002; Richards & Miller, 2005; Stangl, 1994), the purposes of educational writing (Richards & Miller, 2005), knowing your audience (Jalongo, 2002; Richards & Miller, 2005; Stangl, 1994) and organization (Jalongo, 2002; Richards & Miller, 2005; Stangl, 1994). However, the five

pages devoted to style are somewhat helpful.

Perhaps the most general insight into published educational writing comes from Jalongo (2002). Although general, it does offer a glimpse of the style of educational writing. She suggests that good educational writing is, “more showing than telling, with personal insights and concrete examples integrated into the text” (p. 51). She also notes that educational authors need to speak authoritatively on their subjects. While this information isn’t specific, it does reveal the necessity of professionalism and concrete language. The only difficulty with this advice is that it is not easily quantifiable. In terms of this particular study, identifying and quantifying “personal insights” and “concrete examples” could prove difficult. In addition, this advice focuses more on the content of the sentence than the structure of the writing style.

As far as delineating an educational writing style, both Jalongo (2002) and Richards and Miller (2005) paint a broad picture of the general expectations of academic writing in education.

Jalongo states that an author should consider the following behaviors:

- Define specialized terminology and professional jargon using the works of leading authorities in the field.
- Avoid obscure words that will distance members of your intended audience.
- Edit out clichés and use your own figurative expressions.
- Use concrete details, analogies, and examples based on your experience that emphasize key points and bring ideas to life.
- Cut out excess verbiage, needless repetition, and double-speak. (p. 82)

According to Jalongo, these are the behaviors of authors that are aware of the words that they are using for their audience. Aside from this, there is little in this work that deals with writing style.

Richards and Miller (2005) reiterate many of the same points as Jalongo. They note that each word should be carefully scrutinized to make sure the language suits the audience. They note that focusing on the audience at hand is of utmost importance. They suggest that if a

professor wants the writing to be formal and academic, then write in a formal and academic tone. Again, like Jalongo, Richards and Miller make it clear that academic jargon and clichés should be avoided. They also support the notion of the use of concrete nouns in writing in order to enable the reader to see what is being said. Coupled with this is the notion that adjectives and adverbs that do not contribute to the text should be eliminated. They also add that the writing should have parallel structures. This leads to, “fluency and readability” (p. 169). They reiterate the point that gender-biased and sexist language should be eradicated from writing. Finally, Richards and Miller suggest that the passive voice be used sparingly. Many times the passive voice leads to dull, academic prose.

The most direct application of the concept of scholarly writing style in education can be found in Silverman (1982). Although the study is twenty-five-years-old, Silverman asked editors of educational journals what some of their criteria was for acceptable publications. While the list was composed of eighteen different categories of note, the most applicable to this research are: clarity and conciseness of writing and adherence to journal’s stylistic guidelines. Once again, the style of the writing was essential to publication potential.

The most recent contribution to the discussion of publishable writing was offered by Klingner, Scanlon and Pressley (2005). In an article titled “How to Publish in Scholarly Journals,” they make suggestions on the style of writing necessary for scholarly publication. They go as far as to make suggestions regarding the writing style for educational journals. As far as writing style in education they give the following advice:

- Make sure transitions are succinct, with one section naturally flowing into another. A weak form of transition is to flag what is going to be said in the next section or subsection.
- When in doubt, spell it out. Acronyms should be used sparingly and should be defined at first use unless they are ubiquitous.

- Avoid the passive voice.
- Do not anthropomorphize (i.e., give human-like characteristics to a non-human form). Your study did not conclude anything—you did.
- Stay away from wordiness and jargon.
- Avoid using “this” as a stand-alone pronoun; rather, use it to modify a noun. Too often, the antecedent for “this” is not clear.

According to Klingner, Scanlon and Pressley, these guidelines are suggested by the publication manual of the American Psychological Association. They preface this advice by noting that these are the most common mistakes found in educational writing and as editors they wish that authors would focus their efforts.

In summary, this group of works focuses on what the authors might consider publishable writing in education. Of course, using a term like ‘good’ breaks one of the primary rules of writing better. It is vague and abstract. However, this type of educational writing does have certain characteristics. Much of this initial review can be summed up as follows. First, educational jargon should be avoided. The use of jargon alienates much of the potential audience. Second, do not use clichés or tired metaphors. New ideas should use new words. An author should create new images to allow the reader to become more involved in the text. Third, remove any biased language. Again, this alienates much of the audience and it reduces the professionalism of the work. Fourth, use concrete language. Choose words carefully that have a definite purpose and meaning. Do not add a lot of unnecessary information to the text. In addition, keep the language simple. Do not have sentences that are too long, words that are too long, or constructions that are too complicated. In order to improve readability, it is important to use parallel constructions. By doing so, the writing becomes easier for a reader to read. Finally, an author should limit the use of the passive voice. The passive voice takes away much of the meaning of the sentence and causes the action to become an afterthought. By doing these things,

educational writing should be accessible and useful for educators. It is important to note that much of the literature on educational writing focuses on the writing of practitioners. By focusing on readability, the use of analogy and simplicity, much of the focus on style is for ease of reading. Scholarly writing in education is an entirely different endeavor. However, perhaps the most important piece of information that can be gained from this literature, is that knowing the audience is key to successful and meaningful writing.

As noted previously, much of the difficulty of applying this advice is in the subjective nature that most of it entails. Identifying jargon, cliché, the use of common metaphors, the use of new and the use interesting imagery proved to be problematic. In addition, many of these have more to do with meaning than with the structure of style. While the use of concrete language and the inclusion of parallel constructions are less subjective, the recording of such features might prove difficult. Counting the number of concrete terms or the abundance of parallel constructions, while noteworthy, proved difficult because of the impossibility of defining what would be considered an example of each . While there is valuable information regarding the use of passive voice, attention to the length and structure of sentences and the elimination of biased language, much of the previously cited advice is difficult to apply to this study. Later, more pertinent aspects of style will be addressed.

Non-Scholarly Writing

Before entering into any sort of discussion of style, it is important to note that much of the pertinent literature on the writing style for educational writing is devoted to non-scholarly publishing. With titles like, *How to Get Your Teaching Ideas Published*, *Writing for*

Publication: A Practical Guide for Educators, and *Doing Academic Writing in Education: Connecting the Personal and the Professional*, it is apparent that the specific books on this type of writing are focused on the writing and publication of practitioners. As Jalongo (2002) notes, the purpose and audience for her book is, “Examining professional writing from the particular perspective of professional writing for fellow professionals” (p. xxi). While Jalongo states that her audience is graduate students, practicing professionals and college/university faculty, most of her advice is focused on publishing, the intricacies of how to publish, but not on how to write. In addition, much of the text focuses on getting people to write, not on writing itself. Similarly, Stangl (1994) clearly states that her text shows how to get teaching ideas published, not on scholarly writing. Finally, Richards and Miller (2005) note that their focus is on graduate students, school administrators, educational specialists and others involved in education. Because of this, the focus of many of these works is not as much on scholarly writing, as found in academic journals, but on the process of publishing by teachers and other practitioners.

Besides the literature that is directly about educational writing, there is another small body of work that deals with educational rhetoric and discourse. While these works do not directly deal with the act of writing or the process of writing, they do offer interesting viewpoints about the nature of educational writing and the potential for change. These works are peripheral to the crux of this discussion; however, neglecting their inclusion would diminish the overall purpose of this research. Therefore, they will be dealt with briefly.

Perhaps the most intriguing example of educational writing is the diversion from tradition in books regarding educational writing. While many works on scholarly writing and educational writing focus on how to publish in the traditional journal format, there are a number of books that focus on the various deviations from tradition. While these derivations are not radical in any

means, they do offer a varying viewpoint about educational writing. Because of the diverse nature of education and the fact that virtually any topic is covered, there are many theorists on educational writing who feel that the limitations of academic writing curtail the expressiveness of educators. The works of Cameron (2003), Clough (2002), Edwards, Nicoll, Solomon and Usher (2004) and MacLure (2003) constitute this writing about educational writing. It is interesting to note that all of the work originated in the United Kingdom.

Of these four works, perhaps the two most traditional are the works of Edwards, Nicoll, Solomon and Usher (2004) and MacLure (2003). Both of these texts deal with rhetoric, discourse and educational writing. Edwards, Nicoll, Solomon and Usher (2004) suggest in their work that educational discourse is an act of rhetoric. While all forms of communication are rhetorical in nature, it could be inferred that their focus is less on writing style, and more on educational discourse as a means of persuasion using all of the canons of rhetoric. They analyze the use of metaphor to explain educational teaching and learning practices. They also analyze how technology is used in educational discourse, the role of rhetoric in the workplace and the use of rhetoric in the management of educational institutions. The act of writing is not the focus of this work; however, the prevalence of rhetorical persuasion in the context of educational discourse is the direction the authors take.

MacLure (2003) reinforces this notion through an analysis of educational and social discourse. Again, this text does not deal directly with the act of writing, but with an analysis of discourse. MacLure focuses on how discourse is used in the media, parent contact, research and metaphor.

Cameron (2003) chooses to focus entirely upon the use of metaphor in education as a means of teaching and understanding. She notes that metaphor is “interactional, contextualized,

prosaic and dynamic” (p. 265). She notes that the use of metaphor causes us, as educators, to consider the relationships among ideas and to see the whole picture. This might suggest that the use of metaphor in educational writing moves information from the static and sterile feel suggested by quantitative articles to a more three-dimensional style of writing that is closer to educational practice.

Finally, Clough (2002) suggests that the use of narrative and fiction in qualitative educational writing is another means of explicating ideas. Like Cameron, Clough’s notion of the evolution of educational writing takes on the aspects of educational practice by moving away from the precise and moving toward the dynamic. This radical departure from tradition suggests that perhaps, in the future, the focus of educational research could change.

Thesis and Dissertation writing

One of the preeminent forms of academic writing in education, and scholarly writing in general, is that of the dissertation or thesis. Every doctoral student and many Master’s degree students participate in some form of dissertation or thesis project. The purpose of the dissertation or thesis is to show the ability to effectively communicate the information on a given topic on a professional level. Unlike other forms of scholarly writing, the audience is that of a professor, department of college. However, the foundations of other scholarly writing apply. The audience expects high quality writing. Although the audience is specifically a committee in higher education, the expectations are of that the writing be professional and academic. Yet, Brause (2001) notes that, “many of the participants [in the study] remarked that they had no idea what to expect in the dissertation process” (p. 2). She continues by noting that most doctoral students were, “totally independent at the time of their dissertation writing” (p. 4). Torrance and

Thomas (1992) agree by noting that although many doctoral students have writing abilities that mirror those of productive academics, there is a significant minority that finds the writing difficulties might hinder the completion of degrees. Torrance and Thomas found that the biggest problems in student writing included clarity, flow, fact development, grammatical errors, text structure and redundancy.

This begs the question, “Is writing taught in graduate school?” Golding and Mascaro (1986) found that in a survey of one hundred and forty-four universities, 93 schools did not have graduate writing courses. Golding and Mascaro note that the majority of these 93 universities felt that this instruction should occur through means other than writing courses. Of the 51 schools that did offer a writing course, Golding and Mascaro note that 31 out of 78 possible courses were optional or elective. They conclude that it seemed clear that formal writing instruction belongs at the earliest part of a university education. Might they be suggesting freshman comp? If the idea that writing should only be addressed at the earliest level is true, where do students learn how to write in the means suggested by the previous review of scholarly writing and academic writing in education?

As noted previously, Both Delyser (2003) and Riebschleger (2001) suggest that students are unprepared for this type of writing when they get to that point in their education or find that there are few resources to help them learn how to write. They both note that most of the information about this type of writing focuses on the process of writing, namely the form and layout of the text, rather than how to write. Riebschleger in particular suggests that although she loved to write, that fact was not helpful in the dissertation process. The lack of preparation in this particular style of writing limited her effectiveness.

Perhaps the greatest contribution to the topic of dissertation writing comes in the form of the structure of the dissertation. Most, if not all, works on dissertation writing focus on this process and product in terms of layout, format and composition of the text. Paltridge (2002) found that the content of most published advice on dissertation and thesis writing is directed toward the structure and layout of such works. However, he notes that there is a definite separation between what is published and what actually occurs. His analysis shows that the majority of the texts that he analyzed focused on organization, outlining and layout. Yet, the advice given in most guides did not meet the results that were produced by students. The guidebooks were limited as to their structural suggestions. Actual dissertations and thesis projects were much more broadly structured.

Where does this leave this discussion? Casanave and Hubbard (1992) note that in a study they completed regarding doctoral writing, “All faculty indicated...that the importance of writing skills increases as students progress through a graduate program” (p. 37). Unlike previous studies, Casanave and Hubbard found that the quality of the content and the development of ideas were more important than the technical parts of the writing. This might be due to the fact that grammatical issues are correctable, while issues of coherency are more difficult to resolve. While their study focused on English for Speakers of other Languages (ESL), they noted that ESL students need help with grammatical as well as discourse level problems. In addition they need help with writing tasks and need to become self-sufficient in their writing.

Perhaps most notable were the results of a study by Nielson and Tonette (2002). Although the study had an small sample (N=8), they found, “The worst writing errors for graduate students are word- and sentence- level error rather than structural or substantive errors” (p. 312). Nielson and Tonette found that most of the errors in graduate writing for publication

had to do with “Jargon, colloquialisms, punctuations, grammar, spelling, sentence clarity, and sentence length...” (p. 312).

Note that with the exception of the last article, the problems of doctoral writing are focused more on the lack of information about what constitutes acceptable writing than on the correction of any particular problem. Therefore, it is important to investigate the style necessary for this type of writing. This would allow students to understand the components of academic writing in education through a more clear view of what this type of writing is. By looking at a text particular to dissertation writing by a preeminent scholar in curriculum and instruction, a clear view of the necessities of dissertation writing can be delineated.

Allan Glatthorn has written many books about curriculum, curriculum leadership and curriculum development. In addition he has written books on dissertations and professional writing. In his book, “*Writing the Winning Dissertation: A Step-by-step Guide*,” he devotes a chapter to the academic writing style (Glatthorn, 1998). Yet, even in this particular format, the majority of the chapter is devoted to paper construction, organization and the following of guidelines. However, he does offer substantial advice. He notes that academic writing should strive for clarity, maturity, and formality and should strike a balance between confidence and tentativeness. He also notes that a writer should write clear, mature sentences that have the main idea in the main clause and should have many simple sentences. Like other authors of this ilk, he notes that writers should not use the passive voice. He then gives the following advice:

- Use jargon with discrimination.
- Avoid fad expressions.
- Avoid colloquial expressions.
- Avoid the use of contractions.
- Avoid adjectival nouns.
- *Avoid the vague use of we and our.* (Italics in original text)
- *Avoid the second person you.* (Italics in original text)

- Avoid the sexist use of the masculine pronouns in referring to males and females. (p. 121)

This section provides a satisfactory summary of academic writing for dissertations in that it supports previous literature on the nature of well-written educational writing.

Writing Style Analysis Instruments

The literature on writing style analysis instruments is limited. Instruments are hard to find. This statement is not entirely true. Quite to the contrary, instruments are abundant. However, most instruments are subjective. Most of them use a Likert scale and have categories such as “Grammar,” “Word Use,” and “Organization.” While there are an abundance of websites to create these types of instruments, style analysis instruments are a rarity. The ones that are plentifully available are highly subjective in nature and do nothing to reveal the writing style of the writer. This research will review the construction of style analysis instruments that apply to writing in higher education.

Cho (2003) created an instrument for style analysis that focuses on an entry placement test for a university. In his study, English for Speakers of other Language (ESL) students were given two types of essays for entrance to the university. One was a process essay and one was a product essay. The instrument was a feature analysis assessment that used primarily subjective measures. The following categories are analyzed on a scale of 1 to 4 with 1 being the lowest:

Organization

- Direction
- Introduction
- Cohesion (sentence level)
- Cohesion (paragraph level)
- Cohesion (essay level)

Content

- Off topic
 - Support and elaboration
- Source use
- Adequately supported
 - Directly copied sentences
 - Paraphrasing
 - Use of information
- Linguistic Expression
- Grammar
 - Word Choice
 - Sentence Variety
 - Expression
 - Colloquialisms

Although the criterion of the instrument does include much of this review's coverage of writing style, note that the instrument is subjective for the most part. As opposed to quantitative features such as word count, sentence length and the number of particular features, this instrument relied more on subjective judgments. While the construction of the instrument did quantify the writing, the measures were subjective through the use of the Likert scale. Because of this, the results could be difficult to replicate since there is room for scoring error.

Similarly, Michels (2005) developed an instrument for studying dissimilar materials. This analytical tool was created to analyze works for a writing award. Michels notes that in this assessment, a tool was needed to compare writing that came from across a variety of genres. This tool was designed to be a means for comparing these texts. Michels' instrument used a scale from 1-5 (1=minimal, 2=moderate, 3=good, 4=very good, 5=exemplary) on the following categories. She notes that sometimes decimals were used for in between scores. The ability of the scorer to make judgments about the scale suggests there was a lot of interpretation possible by graders. An interesting note about this instrument is that it was not tested. This is only a theoretical instrument. The instrument consisted of the following categories:

- Problem processing
- Contribution to field
- Quality of reflection
- Technical writing conventions
- Organization/sequence
- Modeling of theory
- Format of text
- Use of visuals
- Depth
- Breadth
- Facilitating transference
- Flexibility
- Support/references
- Effectiveness of communications

Again, note that although the content of the instrument does focus on style, the analysis is highly subjective and subject to scorer interpretation.

Sasaki and Hirose (1999) completed a study in which an instrument was created, analyzed for validity, re-written and retested. This study focused on Japanese as a first language and the writing ability of Japanese students. With Japanese being L1 (first language) the study was translated into English. The first version of this instrument is highly subjective and subject to interpretation. The instrument was ranked 1 as a low score, and 5 as a high score. Their categories are found in Table 1.

Table 1: Sasaki and Hirose Categories for Style

(EXPRESSION)

1. Is the handwriting easy to read?
2. Is the notation (e.g., letters, punctuation marks, orthography) correct?
3. Is word usage correct?
4. Is vocabulary rich?
5. Are sentences well-formed?
6. Are sentences sufficiently short?
7. Is 'neutral style' distinguished from 'polite style' (with verb forms)?
8. Are there any grammatical mistakes?
9. Are sentences adequately connected with appropriate use of conjunctions and demonstrative words?
10. Are sentences adequately connected in terms of meaning and logic?
11. Are sentences sufficiently concise?
12. Are sentences unambiguous? (Can they be interpreted in more than one way?)
13. Are various rhetorical expressions used appropriately?

(ORGANIZATION)

14. Are paragraphs appropriately formed?
15. Are all paragraphs logically connected?
16. Is the main point written at the beginning of a paragraph?
17. Is there a concluding paragraph?
18. Do paragraphs follow a general organizational pattern such as "introduction–body–conclusion"?

(CONTENT)

19. Are facts and opinions differentiated?
20. Are facts and examples provided based on the writer's experience?
21. Are facts and examples provided based on the writer's concrete experience and knowledge?
22. Is the theme clear?
23. Is the theme supported by sufficient factual information?
24. Does the writer take a clear position "for" or "against" the given opinion?

(APPEAL TO THE READERS)

25. Are paragraphs ordered so that it is easy for the reader to follow?
26. Are expressions and notation easy for the reader to understand? Are any expressions too complicated?
27. Are given facts and reasons easy for the reader to understand?
28. Is there any appealing content provided?
29. Is there any surprising/novel content provided?

(SOCIAL AWARENESS)

30. Does the writer demonstrate objective awareness of him/herself?
31. Does the writer attempt to look at him/herself in a new light?
32. Does the writer demonstrate objective awareness of social phenomena?
33. Does the writer attempt to look at social phenomena in a new light?
34. Does the writer demonstrate objective awareness of the relationship between the society and him/herself?

35. Does the writer attempt to look at the relationship between society and him/herself in a new light?

Notes: *The original version was written in Japanese

After the initial application of the instrument, the scorers were asked to rate the importance of the categories and questions. The components were then reorganized and the scale was changed. Descriptors were added to clarify the intent of the scale. Sasaki and Hirose found that the new rating scale was superior to the more traditional rating scale and more valid. It could be posited that the reason for this is that there was less room for interpretation since the specific qualities that were being analyzed were more clearly delineated. The instrument is shown in Table 2.

Table 2: Rating scale for Japanese L1 expository writing (translation)

Score	Criteria	Descriptors
Clarity of theme	10-9 very good	Theme is clear. I Provides sufficient facts to the theme support the theme. Differentiates facts from opinions.
	8-6 good	Theme is somewhat clear. I Provides some facts and reasons to support the theme.
	5-3 fair	Theme is not so clear. I Provides few facts and reasons to support the theme.
	2-1 poor	Theme is not clear at all.
Appeal to readers	10-9 very good	Provides concrete and convincing reasons and readers facts. I Very appealing to the reader.
	8-6 good	Provides somewhat concrete and convincing reasons and facts. I Appealing to the reader.
	5-3 fair	Provides a few concrete and convincing reasons and facts. I Not so appealing to the reader.
	2-1 poor	Provides few concrete and convincing reasons and facts. I Not appealing to the reader.
Expression	10-9 very good	All sentences are consistently structured and adequately connected.
	8-6 good	All sentences are consistently structured, but some sentences are inadequately connected.
	5-3 fair	Not all sentences are consistently structured, and many sentences are inadequately connected.
	2-1 poor	Sentences are inconsistently structured and are inadequately connected.
Organization	10-9 very good	All paragraphs are logically connected, and easy to follow.
	8-6 good	All paragraphs are somewhat logically connected, and not difficult to follow.
	5-3 fair	Paragraphs are not logically connected, and difficult to follow.
	2-1 poor	All paragraphs are not logically connected at all, and impossible to follow.
Knowledge of language forms	10-9 very good	Follows appropriate notation (spelling, language forms punctuation, correct use of Chinese characters, etc.). I Demonstrates mastery of correct word usage and grammar.
	8-6 good	Sometimes makes errors in notation, word usage, and grammar.
	5-3 fair	Often makes mistakes in notation, word usage, and grammar.
	2-1 poor	Demonstrates no mastery of notation, word usage, and grammar.
Social awareness	10-9 very good	Demonstrates full awareness of oneself, social awareness phenomena, and the relationship between oneself and society.
	8-6 good	Demonstrates some awareness of oneself, social phenomena, and the relationship between oneself and society.
	5-3 fair	Demonstrates little awareness of oneself, social phenomena, and the relationship between oneself and society.
	2-1 poor	Demonstrates no awareness of oneself, social phenomena, and the relationship between oneself and society.

Perhaps the best example of an instrument for delineating style is that of Gibson (1966). Gibson would have been the first to admit that this instrument for analysis was not empirically validated. In fact, he did. However, his analysis of style is, without question, valuable in that it focuses on the essentials of writing style in ways that are replicable. His analysis comes from an analysis of grammar and linguistics (Gibson, 1966) he admits. His analysis is valuable in that it is purely quantifiable with little that is subjective. It is this foundation that makes for a instrument that is useful and replicable. A succinct version of his instrument can be found in Table 3.

Table 3: The Style Machine (Gibson, 1966)

Word Size

- What is the proportion of monosyllables in the passage?
- What is the proportion of words of more than two syllables?

Substantives

- How many first and second person pronouns does the passage contain?
- How many imperatives?
- Are the subjects of finite verbs mostly neuter nouns, or are they nouns referring to people?

Verbs

- What is the proportion of finite verbs to total words?
- What proportion of the finite verbs are forms of the verb *to be*?
- What proportion of the finite verbs are in the passive voice?

Modifications

- What proportion of the total words are true adjectives?
- How many adjectives are themselves modified by intensifiers or other adverbs?
- What proportion of the total words are noun adjuncts?

Subordination

- What is the average length of the included clauses?
- What proportion of the total passage is inside such clauses?
- How frequently are subject and main verb separated by intervening subordinate structures? How long are these interruptions?

Other effects of tone

- What is the frequency of the determiner 'the'?
- Are there any sentences without subjects, or without verbs, or without either?
- Are there any contractions?
- How many occurrences are there of these marks of punctuation:
 - Italics
 - Parentheses
 - Dashes
 - Question marks
 - Exclamation points

According to Gibson, this instrument has not been researched. As mentioned earlier, its merit lies within the fact that it is quantifiable. This, in itself, makes the instrument worthwhile, most of all, because it is replicable. To show that there is the possibility, see Horn (2004) for one version of its applicability. Horn uses a version of Gibson's analysis for a thesis project to define the corporate voice of Lockheed Martin. However, this present project focuses less on voice, and more on a method to analyze the characteristics of educational writing.

Most of all, this analysis suggests that the better instruments are replicable. Instead of the majority of the analysis being subjective, using objective measures allows for reliability, validity and replicability. A more complete instrument needs to be tested.

Conclusion

Overall, the literature on educational publishing and scholarly publishing, while limited, is both succinct and diverse. I realize that this paradox is embedded into this discussion. On one side there are numerous recommendations about how to write. A prospective author must consider audience, style, organization, and the particulars of the type of writing. Everyone who has thought about the topic and been published has a view. For the most part, the advice is valid and helpful. On the other side, the advice is all the same. Know your audience. Know the style. Read books about style. The point that is reiterated time and time again is the importance of writing for an audience and understanding style.

However, there is little practical advice about style. An author must understand the style of academic and educational writing in order to be successful, be it in master's studies, doctoral work or the professional world. However, there is no literature on the characteristics of this particular style. It is time that the style of educational writing is delineated not to make all writing sound the same: but to reveal guidelines to doctoral students and professional educators of the type of writing that is necessary for academic writing in education.

In order to note the relative omission of advice on style, an analysis of the author's guidelines of many major journals in education (*Phi Delta Kappan*, *Educational Horizons*, *Review of Educational Research*, *Educational Forum*, *Harvard Educational Review*, *Educational Leadership*, any AERA journal, *Educational Studies*, *Philosophy of Education Society Yearbook*,

the Peabody Journal of Education), give no mention of writing style. The only advice is to follow the recommended style manual. However, when looking at the reviewers' guidelines for some of the available journals (*Educational Horizons, Philosophy of Education Society, Educational Forum, Curriculum and Teaching Dialogue*), they all note that the style of the work is part of the review process (see Appendices D-G). This shows that understanding the style of educational writing is not only important, but essential to publication. More research into style is imperative.

CHAPTER THREE: METHODOLOGY

Introduction

As noted previously, the purpose of this study was to discover the characteristics of the style in academic writing in education. In order to accomplish this task, an instrument was developed that included the major characteristics of style based on available writing assessment instruments (Cho, 2003; Gibson, 1966; Horn, 2004; Michels, 2005; Sasaki & Hirose, 1999), basic information on academic writing style (Publication Manual of the American Psychological Association, 2001; Chicago Manual of Style, 2003) and the review of literature on educational and scholarly writing in Chapter Two. Using these writing references, an overview of the style of academic writing in education was ascertained. In turn, an instrument was developed that focused on the measurable and quantifiable attributes of writing style.

In order to insure that a representative measure of academic writing in education would be attained, a diverse cross section of educational writing was assessed. Educational journals and educational writing were evaluated covering journals dealing with various content areas, journals tied to particular associations, evaluation journals, quantitative journals, qualitative journals, and finally, journals were associated with universities. This list was compiled based on the Chapter two literature review, and constructed to examine a diverse cross-section of available journals available to practitioners, students and educators. In addition, the instrument was designed to analyze the type of writing for scholarly writing as defined previously.

The content of this chapter will focus on the research design for determining the writing style found in academic and scholarly journals in education, the foundation for the creation of the

instrument and the background for further research.

Research Questions in Review

The research questions for this study were, (1) What, if any, are the discernable and general characteristics of academic writing in education? (2) Is there a difference in writing style across, among, and/or between various types of academic journals in education? And (3) what are the writing style criteria of academic writing in education?

Research Design

This study is a quantitative study focusing on objective measures in the style of academic writing in education. All data was recorded on a data collection instrument and analyzed through various statistical processes including descriptive statistics and an analysis of variance (ANOVA). Each pre-designed group of journal articles was compared to the other groups for two reasons. The first reason, and most important, was to find any commonalities in the characteristics of writing style found in academic journals in education. Second, the groups were compared to illuminate any characteristic features for each type of journal. The literature review for this study suggests that an analysis of this type has not previously been completed. Therefore, this design may be unique.

Journal Sample

In order to make sure that a representative cross section of academic writing in education was assessed, journals representing various types of educational writing were studied. The sample was taken from the last two years of publication of each of the journals shown in Table 4.

The journals were divided into these categories based on the intended organization and/or audience that might be reading the journal. This decision was based on the previously noted literature on the importance of audience. The description of each of the category descriptors is below. Note that the italicized categories were noted in the previous literature review (Wellington & Torgerson, 2005).

- *Discipline Journals*—These journals were selected because the journals focused on practitioners in secondary and post-secondary education. Although not mentioned by Wellington and Torgerson, these journals represent both the liberal arts aspect and the pure science aspect of the disciplines.
- *Association Journals*—These journals were selected because of their association with national associations and/or honor societies. The readership is based on a combination of general readership and the members of the association.
- *Evaluation Journals*—These journals were selected because the overall focus is on evaluation of educational policy and practice.
- *Qualitative Journals*—These journals were selected because of the qualitative nature of the research and the complete omission of quantitative studies.
- *Quantitative Journals*—While there are few purely quantitative journals in education, these journals were selected because the entire focus of the journal is on quantitative research. Although not mentioned by Wellington and Torgerson, these are highly respected in the behavioral sciences.
- *University Journals*—These journals are closely associated with the mission and focus of various universities.

Table 4: Journals Used for Article Selection

Discipline Journals	Association Journals	Evaluation Journals	Qualitative Journals	Quantitative Journals	University Journals
English Education	Educational Horizons (Pi Lambda Theta)	American Educational Research Journal	Educational Researcher	Structural Equation Modeling	Harvard Educational Review
Science Education	Educational Forum (Kappa Delta Pi)	Educational Evaluation and Policy Analysis	Educational Theory	Educational and Psychological Measurement	Teacher's College Record
	Phi Delta Kappan				Peabody Journal of Education
	Educational Leadership				Thresholds in Education

Article Selection

One of the primary purposes of this study was to be able to accurately characterize the components of academic writing in education and be able to generalize this to the field of academic writing in education. Gay and Airasian (1992), Shavelson (1996) and Crowl (1996) among others, note that a random sample is imperative if inferences about the population can even be considered. In order to ensure that the sample was random, the table of contents of each

journal was compiled to create a cumulative table of content that covered the two years selected. The contents of each journal were then sequentially numbered. Using Research Randomizer (<http://www.randomizer.org>) created by Urbaniak and Plous, a free online research tool, the sequential contents of each journal were used to randomly select the journal articles studied. Journal articles were omitted from the analysis if they were recurring columns that were not peer-reviewed or were editorials that were not peer-reviewed. When one of these articles was selected, the next article in the journal was used.

Instrumentation

An instrument was developed to enable reviewers to quantify the writing style found in academic writing in education. Based on the literature review and the available instruments, the following items were deemed to be pertinent to this study.

Diction and Language

- Percentage of uses of words of three or more syllables (Gibson, 1966; Horn, 2004)
- Percentage of uses of single syllable words (Gibson, 1966; Horn, 2004)
- Percentage of sentences using “This” as a solitary subject (Publication Manual of the American Psychological Association, 2001)
- Percentage use of “To Be” verbs in the main clause (Gibson, 1966; Horn, 2004)
- Percentage of passive voice (Publication Manual of the American Psychological Association, 2001; Chicago Manual of Style, 2003; Gibson, 1966; Horn, 2004)
- Number of uses of figurative language (Corbett & Connors, 1999)
- Use of acronyms (Klingner, Scanlon and Pressley, 2005)
- Occurrences of contractions (Gibson, 1966; Horn, 2004)
- Percentage of first person sentences (Gibson, 1966; Horn, 2004)
- Percentage of second person sentences (Gibson, 1966; Horn, 2004)
- Occurrences of biased language (gender, culture, etc.) (Publication Manual of the American Psychological Association, 2001; Chicago Manual of Style, 2003)

Syntax and Sentences

- Average sentence length (Cho, 2005; Sasaki & Hirose, 1999)
- Standard deviation of sentence length (based on Cho, 2005)
- Percentage of simple sentences (based on Sasaki & Hirose, 1999)
- Percentage of compound sentences (based on Sasaki & Hirose, 1999)
- Percentage of complex sentences (based on Sasaki & Hirose, 1999)
- Percentage of compound/complex sentences (based on Sasaki & Hirose, 1999)
- Percentage of periodic sentences (Corbett & Connors, 1999)
- Percentage of loose sentences (Corbett & Connors, 1999)
- Percentage of direct quotes of the total number of words (Cho, 2005)

Sentence Types

- Percentage of declarative sentences (Gibson, 1966; Horn, 2004)
- Percentage of interrogative sentences (Gibson, 1966; Horn, 2004)
- Percentage of imperative sentences (Gibson, 1966; Horn, 2004)
- Percentage of exclamatory sentences (Gibson, 1966; Horn, 2004)

Paragraphs

- Number of sentences per paragraph (Corbett & Connors, 1999)
- Number of references per paragraph
- Number of words per paragraph
- Total number of words in first five paragraphs

A quick examination of the components of the analytical tool revealed that three of the major stylistic devices found in the literature review were ultimately omitted from the final examination of writing. Perhaps the most notable of these omissions was jargon. During the course of data collection, defining exactly what composed jargon proved to be a daunting task. Whereas a specialist in a subject may be able to quickly identify jargon, identifying jargon in this cross-section of journals proved difficult. A thorough attempt was made to compile a list of

common education jargon by submitting the question to the editorial boards of various journals. Almost every respondent from the editorial boards appreciated the question of identifying jargon and could not clearly define what would be constituted as jargon in a particular journal. Michelle Foster, features editor of *Educational Researcher* noted, “We do not have a list of common jargon terms used in our journal” (personal communication, September 16, 2006), while an editor from *Educational Horizons* noted, “I can't come up with particular words or phrases off the top of my head” (personal communication, September 6, 2006). Felice Levine, Executive Director of AERA, adds, “It is not just a routine inquiry that editors could readily address or handle” (personal communication, September 13, 2006). Because of the almost impossible task of identifying jargon, it was omitted from further study.

Additionally, colloquial language was also removed from the study. Although colloquial language was easier to see, there were many subjective issues in the identification of colloquial language. What might be considered colloquial to one person might not be to another. However, as noted later, it was discovered that the use of contractions, the use of first and second person pronouns, an abundance of short, simple sentences and the use of a greater proportion of single syllable words were all commonalities in the particular journal categories. Upon reading any of these journals, it is easy to notice the conversational tone that may be considered colloquial. However, identifying colloquial language as a separate variable was not attempted.

Finally, cliché terms and expressions were eliminated from the final analysis for many of the same reasons that colloquial language was omitted. Too many instances occurred that required a subjective decision to be made. As noted previously, the intent of this study was to focus on objective measures.

Syntax, Diction and Structure Specifications

In order to develop a consistent record of the writing style for the selected journals, the following decisions were made.

- Direct quotes were counted in the word count.
- Direct quotes were not used for other style analysis because they are not the words of the author.
- Initials were counted as full words (i.e. ID=Intelligent Design) because the initials represent the whole word. The only exception was made for common acronyms.
- Hyphenated words were counted as one word.
- Names were not counted in the syllable count.
- Titles (i.e. President) were counted as syllables.
- Names, when used in the context of the sentence (i.e. Jones and Smith (1993), stated...) were counted as words.
- Names, when used in parenthetical citations at the end of the sentence (i.e. Jones & Smith, 1993) were not counted as words.
- Years, when used as part of the context of a sentence (i.e. In a 1987 study...) were counted as single words with three or more syllables.
- When a sentence turns into a list, sentences were counted to the first period. Each subsequent sentence was separate.
- In statistical texts, formulas count as one word (i.e. R^2 or $x + y$). Within the formula, syllables were counted as if the formula were read.
- In lettered lists, the letters (i.e., a, b, c, etc.) were counted as one word.
- Words that were separated by a backslash were counted individually (i.e., and/or, his/her).
- Ratios were counted as single words.
- Numerical percentages were counted as two words (one word for the number and one word for 'percent').
- Numbers that involve decimals were counted as one word. Syllables were counted as if spoken (i.e., 3.6 would be three syllables).
- Compound nouns separated by a conjunction (i.e. English- and French-speaking) were counted as three words.
- Words that have alternate possible endings (Latino/a) were counted as two words.
- Delineations of time that involve multiple years (2007-8) were counted as single words like hyphenated words.

Data Collection

The data for this study was collected using the recording instrument found in Appendix B. The first five paragraphs of each article were analyzed using the aforementioned instrument. The first five paragraphs were studied because they constituted the bulk, if not all of the introductory material for each journal. This selection was deemed appropriate as a sample of the writing style of each individual author and/or article. The sample was limited to this particular section of the text because many times the literature review in an article relies on the thoughts and/or direct quotes of other authors that have been summarized. In addition, later sections of text use a style that is conducive to data analysis, statistical analysis and more replicated forms of writing. Finally, the discussion and conclusion sections were omitted because of the varying length and disparate styles of any conclusions or recommendations.

The data collection was completed by the researcher and an assistant. The assistant was chosen because of a background and degree in business management with a focus on accounting. This background was considered essential because of the necessity of attention to detail in the practice of accounting. The roles of each member of the data collection team are delineated as described below.

The research assistant was in charge of collecting the information regarding sentence length, single syllable words, words of three or more syllables, sentence type and number of references. A standardized process of recording the data for each article was developed. In order to develop a consistent and accurate measure, the first articles were assessed aloud with constant discussion in order to standardize the method of recording. This division of labor was devised based on the need for quantitative accuracy for the role of the research assistant and the

necessity of grammatical and structural expertise of the researcher for the grammatical constructions. The process was as follows.

The first five paragraphs were identified in the selected article and a notation was made to identify the end of the section. Once the sample was identified, the individual sentences in each article were identified. After the sample was selected, the number of words per sentence were counted and recorded on the recording instrument. At the end of the word count, the number of references used in each sentence was recorded. Following this process, each sentence was identified as being declarative, interrogative, imperative or exclamatory. The next step involved counting the number of single syllable words per sentence. This was followed by logging of the number of words of three or more syllables. The specifications for syntax, diction and structure were discussed and standardized. This process was used for each of the articles in the sample for this study.

The researcher conducted the second part of the process of recording information. After each article was completed by the assistant, the researcher analyzed each sentence for the structure of each sentence, the voice, the point of view, the placement of the subject and the use of “to be” verbs. Because accuracy was a priority for this study, each sentence was carefully scrutinized. In addition, a second assistant was enlisted to check the accuracy in this regard.

Finally, the researcher recorded the number of uses of “this” when used as a solitary subject, the number of acronyms used, the number of uses of figurative language, the number of uses of contractions, and the number of uses of biased language.

In order to maintain an accurate record of the percentages of each variable and/or the raw number of occurrences of other items, an Excel spreadsheet was created that would transform the raw data into percentages of the total. The format of the spreadsheet is displayed in Appendix C.

Data Treatment

In order to produce a statistical sample that was useful and statistically viable, the following decisions were made for each of the categories of study.

Diction and Language

- Words of three or more syllables: Percent of total words
- Single syllable words: Percent of total words
- Use of 'This' and solitary subject: Percent of total sentences
- Number of 'To Be' verbs: Percent of total sentences
- Use of passive voice: Percent of total sentences
- Use of acronyms: Raw total
- Use of figurative language: Raw total
- Use of contractions: Raw total
- First person sentences: Percent of total
- Second person sentences: Percent of total
- Uses of biased language: Raw total

Syntax and Sentences

- Sentence length: Average
- Standard deviation of sentence length
- Simple sentences: Percent of total sentences
- Compound sentences: Percent of total sentences
- Complex sentences: Percent of total sentences
- Compound/complex sentences: Percent of total sentences
- Periodic sentences: Percent of total sentences
- Loose sentences: Percent of total sentences
- Direct quotes: Percent of total sentences

Sentence Types

- Declarative sentences: Percent of total sentences
- Interrogative sentences: Percent of total sentences
- Imperative sentences: Percent of total sentences
- Exclamatory sentences: Percent of total sentences

Paragraphs

- Sentences per paragraph: Mean
- References per paragraph: Mean
- Words per paragraph: Mean
- Number of total words: Raw score

It must be noted that the majority of the data collected focuses on a percentage of the total number of words or sentences. The reason for this was to create ratio data that could be effectively utilized for any statistical analysis. In the case where raw data was used, it was deemed that the results would be so small if calculated as a percentage that they would be useless. Although using raw data is effected by the size of the sample from the article, an overabundance of any one of these variables would be easily seen.

Data Reliability

In order to ensure the reliability of the data collected, a random sample of the results of the instrument was selected. The recorded information on sentence length, single syllable words, words of three or more syllables, sentence type and number of references, recorded by the first research assistant, was randomly checked by the researcher. The researcher randomly sampled three to five sentences of thirty different articles to make sure that the information was accurate. Any discrepancies were recorded. It was found that of the one hundred and fifteen sentences that were analyzed, 98% of the word count was accurate and 91.66% of the syllable count was accurate. Any deviations (in accordance with inter-rater reliability procedures) were never more than one word. Because of this, an assumption of accuracy was made based on a pre-determined figure of 80% decided upon by the dissertation committee. In addition, the number of references was found to be exact. Finally, the type of sentence (declarative, interrogative, imperative and/or

exclamatory) had a 95% accuracy rate. The only errors were made when an imperative sentence was listed as a declarative sentence. The researcher double-checked all of the sentences.

In order to check the reliability of the researcher's work, a second research assistant randomly checked one hundred sentences that the researcher had recorded. Because this section of the research was completed by the researcher, a second research assistant was hired to ensure inter-rater reliability. This research assistant was hired because of a background as an English teacher with twenty-five years of experience with grammar, writing and writing assessment. In one hundred fifty-five of the one hundred sixty-five sentence that were sample, there was consensus (94%). Those not achieving consensus were not identified as incorrect, but as having characteristics that made identification difficult (length of sentence, fragments, etc.).

Journal Classification Homogeneity

One of the assumptions of this study was that the journal classifications, based on a combination of journal quality, content and audience, were homogeneous. In order to assess the homogeneity of the groups, each were analyzed using a comparative statistic. If the group was composed of two journals, an independent t-test was calculated. If the group was comprised of four journals, an ANOVA was used.

Pilot Study

Because this is a new instrument, a pilot study was conducted to determine the effective collection of the data of the individual items on the instrument. For the pilot study, a research assistant was not utilized. Standardizing and norming of data collection occurred during the actual study.

The pilot study consisted of an analysis of four journal articles using the newly created analytical instrument. The analysis included two articles from the *American Educational Research Journal*, one from *Educational Theory*, and one from *Educational Horizons*. The articles were compared and contrasted to show the similarities and differences among the various types of articles. Based on the preliminary findings, it was determined, as mentioned previously that colloquial language and cliché should be removed from the study. In addition, the following data was collected that show that definite differences would be easily found.

Table 5: Pilot Study Results

	Educational Horizons	AERJ	Educational Theory
Diction and Language			
Total Number of Words Without Direct Quotes	309	538.7	523
Percentage of Words with Three Syllables	15.85	25.4	23.33
Percentage of Words with One Syllable	50	46.72	52.58
Percentage of Sentences with a Subject of This/That	6.66	0	8
Percentage of Sentences Using "To Be" Verbs	20	10.14	4
Percentage of Passive Sentences	6.66	5.12	0
Percentage of Sentences Using Jargon	0	1.45	0
Percentage of Sentences Using Figurative Language	0	0	0
Percentage of Sentences Using Cliché	0	0	0
Percentage of Sentences Using Acronyms	0	0	0
Percentage of Sentences Using Colloquial Language	6.66	0	0
Percentage of Words Using Contractions	2	0	0
Percentage of First Person Sentences	6.66	19.33	4
Percentage of Second Person Sentences	0	0	0

	Educational Horizons	AERJ	Educational Theory
Percentage of Sentences Using Biased Language	0	0	0
Syntax and Sentences			
Average Sentence Length	20.6	31.76	23.32
Standard Deviation of Sentence Length	12.78	11.57	7.72
Percentage of Simple Sentences	20	18.16	24
Percentage of Compound Sentences	0	1.45	0
Percentage of Complex Sentences	66.67	76.04	64
Percentage of Compound/Complex Sentences	13.33	2.9	4
Percentage of Periodic Sentences	13.33	14.59	24
Percentage of Loose Sentences	73.33	73.72	52
Percentage of Direct Quotes	10.68	14.53	10.29
Paragraphs			
Number of Sentences per Paragraph	3	4.07	5
Number of References per Paragraph	0	3.67	0.8
Number of Words per Paragraph	61.8	125.7	116.6

Note that there are obvious differences, even based on this descriptive data, that show the differences in this limited sample. It was determined that the instrument would be usable because all of the information gathered was objective and measurable. The instrument was only a recording device for the collection of data.

Data Analysis

After the data were collected, similarities and differences were analyzed among and between the different groups of journals using SPSS 14.0. On the most fundamental level, descriptive statistics were used to outline the basic characteristics of academic writing in

education. These characteristics were described and used to create a basic definition of the characteristics of academic writing in education. Second, a one-way analysis of variance (ANOVA) was conducted to analyze the relationships of the groups of journals in order to discover, if, in fact, there were differences in the various academic journal categories. Any differences were noted and commonalities within groups were assumed to show that the selected journals were representative of the journal type. This assumption was made because a random sample of the journal was taken.

In addition to the general characteristics of academic writing in education, specific characteristics of the journal types were also defined based on the results of the analysis. Categories were created to explain the different types of writing found in academic writing in education.

Chapter Summary

Through a random sample of journals selected based on the literature review (Wellington & Torgerson, 2005), the dissertation committee's recommendations, and the input of various faculty, the characteristics of academic writing in education were defined for this sample. The data were collected and tested for reliability. The data produced by the research assistant and the researcher was found to be reliable.

The instrument was created by selecting the objective and measurable variables extracted from the literature review and from the few other examples of writing style instruments. These items were tested for viability through a pilot study which eliminated from consideration both the inclusion of colloquial language and cliché. It was later determined that jargon would also be removed because of the issues with identification. The pilot study also suggested that significant

differences and similarities might be available.

The data were primarily recorded as percentages of the total number of words or sentences, depending on the variable, as a mean per paragraph for references, words per sentence and for sentences per paragraph, or as raw data if the overall percentage became miniscule and unusable. All calculations for percentages were calculated using an Excel spreadsheet formula so as to ensure that no mathematical errors would be made.

Data was analyzed in SPSS 14.0 to derive descriptive statistics, ANOVA tables and specific factors that were used for analysis.

CHAPTER FOUR: RESEARCH FINDINGS

Overview

Based on the previously mentioned literature review and methodology, this chapter presents the findings of the statistical analysis completed on the data set. Because the purpose of this study was to characterize the elements of academic writing in education, this characterization will include both common attributes found in all academic writing in education and specific elements that are particular to specific types of academic writing. By combining both of these sets of results, an overall picture of the characteristics of academic writing in education can be drawn. Again, the purpose of this study is not to homogenize the style of writing in education, but elucidate the characteristics of writing style so that graduate students, dissertation writers, members of the professoriate, researchers and professional educators can more effectively communicate ideas.

This research was designed to answer the following three questions:

- (1) What, if any, are the discernable and general characteristics of academic writing in education?
- (2) Is there a difference in writing style across, among, and/or between various types of academic journals in education?
- (3) What are the writing style criteria of academic writing in education?

Overall Characteristics of Journal Sample

The data collected for this study were extracted from a random sample of journal articles

from sixteen different academic journals in education. The extracted material included the first five paragraphs of introductory material from each of the aforementioned journals. A random sample from the previous two years of publication for each of the journals was attained with the intent of using the data to identify and characterize the overall characteristics of academic writing style in educational literature. Either five or ten articles were analyzed per journal based on the number of journals in each of the categories shown in Table 6.

In order to more clearly define the sample, a detailed breakdown of the specific journals analyzed and the number of articles analyzed can be found in Table 6.

Table 6: Breakdown of Journals Studied

Category/Journal	Number Studied
Discipline Journals	
English Education	10
Science Education	10
Association Journals	
Educational Horizons (Pi Lambda Theta)	5
Educational Forum (Kappa Delta Pi)	5
Phi Delta Kappan	5
Educational Leadership (ASCD)	5
Evaluation Journals	
American Educational Research Journal (AERA)	10
Educational Evaluation and Policy Analysis (AERA)	10
Qualitative Journals	
Educational Researcher (AERA)	10
Educational Theory (PES)	10
Quantitative Journals	
Structural Equation Modeling	10
Educational and Psychological Measurement	10
University Journals	
Harvard Educational Review (Harvard)	5
Teacher's College Record (Columbia)	5
Peabody Journal of Education (Vanderbilt)	5
Thresholds in Education (Northern Illinois U.)	5
	120

Statistical Procedures

Descriptive Statistics

To find the discernable and general characteristics of academic writing in education, as delineated in the first research question, descriptive statistics were applied to characterize the general components of this type of writing. This broad look at the components of writing style in academic writing in education gives an overall picture of the diction, syntax, paragraphing and structure of language in this type of writing. Although these statistics will not take into account any differences in writing style across the various categories of journals or specific journal titles, it intimates a general definition of the writing style found in academic journals found in education.

ANOVA and Tukey's HSD

In order to establish any differences between the various groups of journals previously explained. This ANOVA quickly discriminated between the components of educational writing that were common to all academic writing in education and those that were unique to one or more types of writing. Although the ANOVA revealed any differences on a large scale, a post-hoc test had to be completed in order to identify more specific results. In order to discern between the different groups, a Tukey's Honestly Significant Difference (Tukey's HSD) post-hoc test was run to discover the exact differences within groups.

Journal Classification Homogeneity

One of the underlying assumptions of this research was that the classifications of each journal are consistent and homogeneous. In order to assess the homogeneity of the journal classifications, an independent samples t-test was run for the groups that had two journals and a one-way ANOVA was run with each group that included four journals. Although the focus of each group was chosen because of the audience and the slant of the style of the journal, this test was completed to distinguish homogeneous groups from heterogeneous groups.

Descriptive Statistics

Basic descriptive statistics were run on the overall data set in order to accumulate a basic statistical description of the foundations of academic writing style in education. The descriptive statistics include the mean for each variable, the standard deviation for each variable, and the high score and the low score for each. The statistics are shown on Table 7.

For this narrative regarding the general characteristics of academic writing style in education, many of the descriptors were indefinitely described. The reason for this is that in some cases, such as the fact that 93.33% of the sentences are declarative, fractional results are meaningless considering that the fraction is describing one-third of a sentence. Therefore, this description will be less precise for writing deals with whole words and not the statistical partial words that occur with numerical data.

Table 7: Descriptive Statistics

	Minimum	Maximum	Mean	Std. Deviation
Number of words with 3 or more syllables	8.23	36.95	22.5919	5.24326
Number of single syllable words	39.17	74.32	52.2262	6.32706
Percentage of sentences with 'this as subject	.00	9.09	1.2100	2.30067
Percentage of uses of "to be" verbs	.00	76.47	23.2529	13.68594
Percentage of passive sentences	.00	20.83	3.8568	5.08996
Total usage of acronyms	.00	27.00	2.2778	4.83901
Total uses of figurative language	.00	12.00	.2417	1.21611
Total use of contractions	.00	7.00	.4000	1.20503
Percentage of first person sentences	.00	93.33	16.2163	20.19625
Percentage of second person sentences	.00	33.33	1.2593	4.96038
Number of uses of biased language	.00	.00	.0000	.00000
Average sentence length	9.29	41.64	25.2096	5.13320
Standard deviation of sentence length	6.06	19.09	11.3378	2.91646
Percentage simple sentences	11.54	88.89	42.2603	14.16422
Percentage compound sentences	.00	51.30	6.3739	7.36741
Percentage complex sentences	.00	80.00	47.1860	13.51490
Percentage compound/complex sentences	.00	25.93	4.4413	5.14011
Percentage periodic sentences	.00	33.33	10.2858	7.21551
Percentage loose sentences	6.67	93.33	58.1784	12.73095
Percentage of direct quotes	.00	43.94	4.8293	7.83336
Percentage declarative sentences	64.29	100.00	95.1800	8.06104
Percentage interrogative sentences	.00	35.00	3.6108	6.90952
Percentage imperative sentences	.00	11.76	.7387	1.99098
Percentage exclamatory sentences	.00	12.50	.1042	1.14109
Sentences per paragraph	3.20	18.47	5.3456	1.83484
References per paragraph	.00	41.67	2.6031	4.23934
Words per paragraph	52.80	241.40	134.233	37.35731
Total number of words in first five paragraphs	264.00	1207.00	671.5167	186.29064

Overall, as noted in the table, the mean for each sample passage was just over 671 words in the first five paragraphs, or about 134 words per paragraph. On the whole, approximately 25% of all sentences use “to be” as the major verb. Further, there is little use of the passive voice, and little use of figurative language, contractions, second person sentences, compound or compound/complex sentences, direct quotes or any sentences that are not declarative in the overall sample of academic writing in education. In addition, in no instance was biased language used. In general, paragraphs averaged just over 5 sentences long, and there were approximately 2.5 references per paragraph. The average sentence length was barely over 25 words long with a SD of 11.33. There was almost six times the number of loose sentences than there were periodic sentences. Finally, it is interesting to note that overall, the number of single syllable words is two and a half times greater than the number of words that have three or more syllables.

If the first standard deviation is added and subtracted from the mean for each group, the expected range for academic writing in education can be clearly illustrated. The results are found in Table 8.

Table 8: Expected Ranges of Characteristics of Academic Writing in Education

	Mean	SD	Minimum	Maximum
Number of words with 3 or more syllables	22.5919	5.24326	17	28
Number of single syllable words	52.2262	6.32706	46	59
Percentage of sentences with 'this as subject	1.21	2.30067	0	4
Percentage of uses of "to be" verbs	23.2529	13.6859	10	37
Percentage of passive sentences	3.8568	5.08996	0	9
Total usage of acronyms	2.2778	4.83901	0	7
Total uses of figurative language	0.2417	1.21611	0	1
Total use of contractions	0.4	1.20503	0	2
Percentage of first person sentences	16.2163	20.1963	0	36
Percentage of second person sentences	1.2593	4.96038	0	6
Number of uses of biased language	0	0	0	0
Average sentence length	25.2096	5.1332	20	30
Standard deviation of sentence length	11.3378	2.91646	8	14
Percentage simple sentences	42.2603	14.1642	28	56
Percentage compound sentences	6.3739	7.36741	0	14
Percentage complex sentences	47.186	13.5149	34	61
Percentage compound/complex sentences	4.4413	5.14011	0	10
Percentage periodic sentences	10.2858	7.21551	3	18
Percentage loose sentences	58.1784	12.731	45	71
Percentage of direct quotes	4.8293	7.83336	0	13
Percentage declarative sentences	95.18	8.06104	87	103
Percentage interrogative sentences	3.6108	6.90952	0	11
Percentage imperative sentences	0.7387	1.99098	0	3
Percentage exclamatory sentences	0.1042	1.14109	0	1
Sentences per paragraph	5.3456	1.83484	4	7
References per paragraph	2.6031	4.23934	0	7
Words per paragraph	134.233	37.3573	97	172
Total number of words in first five paragraphs	671.517	186.291	485	858

Analysis of Variance

A one-way between-groups analysis of variance was conducted to explore the differences in the components of writing style in each of the journal groups as recorded on the instrument created for this study. As noted previously, the sixteen journals were divided into six groups based on purpose and audience. Because of the large number of variables, instead of a narrative description of the statistics, the results are presented in Table 9. Table 9 includes all variables with significant differences between the groups.

Table 9: Analysis of Variance—Difference in Journal Groups

	F	Sig.
Number of words with 3 or more syllables	11.705**	
Number of single syllable words	7.657**	
Percentage of sentences with 'this as subject	1.034	.401
Percentage of uses of "to be" verbs	2.250	.054
Percentage of passive sentences	7.509**	
Total usage of acronyms	8.404**	
Total uses of figurative language	1.704	.139
Total use of contractions	4.848**	
Percentage of first person sentences	3.240**	
Percentage of second person sentences	2.371*	
Number of uses of biased language	.	.
Average sentence length	7.484**	
Standard deviation of sentence length	1.697	.141
Percentage simple sentences	2.565*	
Percentage compound sentences	.297	.914
Percentage complex sentences	2.491*	
Percentage compound/complex sentences	2.950*	
Percentage periodic sentences	1.166	.330
Percentage loose sentences	1.951	.091
Percentage of direct quotes	2.253	.054
Percentage declarative sentences	4.454**	
Percentage interrogative sentences	3.692**	
Percentage imperative sentences	1.338	.253
Percentage exclamatory sentences	1.000	.421
Sentences per paragraph	2.100	.070
References per paragraph	5.209**	
Words per paragraph	6.828**	
Total number of words in first five paragraphs	6.857**	

Note: df = 5, 119 *p ≤ .05 **p ≤ .01

Because of the relative small sample size per journal (n = 5 or n = 10), the significant results are more noteworthy because they are less influenced by sample size.

The significant results were spread across all aspects of the measured qualities of

academic writing style in education. There were results from each of the general sections and multiple results from each. While the ANOVA statistic is important in identifying the general differences among groups, in order to find the specific differences within the groups, a Tukey's Honestly Significant Difference (Tukey's HSD) post-hoc test was computed to show the specific differences. Although a graphical representation of the data might be easier to see, a combination of narrative description and graphical representation was chosen due to the large number of variables with significance and the complicated nature of a Tukey HSD table with the number groups in this study. The general descriptive statistics can be found in tables 10, 11, 12 and 13.

A narrative description of each variable is shown below. In addition, a homogenous subsets table was created to illustrate differences of each subset. Finally, an effect size statistic was calculated using the following formula suggested by Pallant (2005): $\text{Eta squared} = \text{Sum of squares between-groups} / \text{total sum of squares}$.

Table 10: Tukey's HSD—Diction and Language

		Mean	Std. Deviation
Num. of wds. with 3 or more syll.	Discipline Journals	21.2735	5.38203
	Association Journals	17.1760	4.00558
	Evaluation Journals	25.3745	3.59269
	Qualitative Journals	23.2845	3.07833
	Quantitative Journals	26.5545	4.71060
	University Journals	21.8885	4.91842
	Total	22.5919	5.24326
Number of single syllable words	Discipline Journals	52.8470	6.96856
	Association Journals	58.2030	4.93794
	Evaluation Journals	48.7115	2.70963
	Qualitative Journals	52.1915	3.91298
	Quantitative Journals	48.8620	7.17189
	University Journals	52.5424	6.37653
	Total	52.2262	6.32706
Percentage of passive sentences	Discipline Journals	3.9195	3.91297
	Association Journals	2.0755	3.97090
	Evaluation Journals	3.7790	4.41336
	Qualitative Journals	.9410	2.08087
	Quantitative Journals	8.9880	6.69921
	University Journals	3.4375	4.72200
	Total	3.8568	5.08996
Total usage of acronyms	Discipline Journals	2.2665	4.42688
	Association Journals	.4500	1.39454
	Evaluation Journals	.9000	2.26878
	Qualitative Journals	1.6500	6.03738
	Quantitative Journals	7.7000	6.22474
	University Journals	.7000	2.29645
	Total	2.2778	4.83901
Total use of contractions	Discipline Journals	.8500	1.89945
	Association Journals	1.3000	1.75019
	Evaluation Journals	.0000	.00000
	Qualitative Journals	.0000	.00000
	Quantitative Journals	.0000	.00000
	University Journals	.2500	.91047
	Total	.4000	1.20503

Table 11: Tukey's HSD—Sentence Types

		Mean	Std. Deviation
Percentage of first person sentences	Discipline Journals	24.7000	27.42378
	Association Journals	21.8505	28.15661
	Evaluation Journals	14.7710	13.93199
	Qualitative Journals	16.0065	9.94249
	Quantitative Journals	2.2880	4.73893
	University Journals	17.6815	19.40390
	Total	16.2163	20.19625
Percentage of second person sentences	Discipline Journals	.3165	1.01113
	Association Journals	4.2210	9.57580
	Evaluation Journals	.0000	.00000
	Qualitative Journals	2.2590	6.59788
	Quantitative Journals	.3815	1.35192
	University Journals	.3780	1.22895
	Total	1.2593	4.96038
Average sentence length	Discipline Journals	25.9650	5.42727
	Association Journals	20.3615	3.53302
	Evaluation Journals	28.8690	4.18872
	Qualitative Journals	24.5705	5.73483
	Quantitative Journals	25.3620	3.58209
	University Journals	26.1295	4.36431
	Total	25.2096	5.13320
Percentage simple sentences	Discipline Journals	38.2675	14.95750
	Association Journals	44.8805	16.21334
	Evaluation Journals	45.4335	15.16998
	Qualitative Journals	34.6680	10.34557
	Quantitative Journals	47.7475	12.00422
	University Journals	42.5650	12.71264
	Total	42.2603	14.16422
Percentage complex sentences	Discipline Journals	48.9860	10.23809
	Association Journals	42.1815	13.63272
	Evaluation Journals	46.3470	15.84566
	Qualitative Journals	51.6965	11.88965
	Quantitative Journals	41.5865	11.22951
	University Journals	52.3185	14.90293

		Mean	Std. Deviation
	Total	47.1860	13.51490
Percentage compound/complex sentences	Discipline Journals	6.3520	6.19385
	Association Journals	4.9775	4.68632
	Evaluation Journals	2.8755	3.97294
	Qualitative Journals	6.5335	5.14868
	Quantitative Journals	4.1425	6.08965
	University Journals	1.7670	2.61121
	Total	4.4413	5.14011

Table 12: Tukey's HSD—Sentence Types

		Mean	Std. Deviation
Percentage declarative sentences	Discipline Journals	94.2590	6.89727
	Association Journals	88.9435	12.16677
	Evaluation Journals	98.0540	4.07994
	Qualitative Journals	95.8700	8.63822
	Quantitative Journals	99.0080	1.89897
	University Journals	94.9455	7.07080
	Total	95.1800	8.06104
Percentage interrogative sentences	Discipline Journals	4.5570	6.62159
	Association Journals	8.5230	10.19400
	Evaluation Journals	1.4965	3.39645
	Qualitative Journals	2.6010	7.60013
	Quantitative Journals	.6105	1.50623
	University Journals	3.8765	6.16536
	Total	3.6108	6.90952

Table 13: Tukey's HSD—Paragraphs

		Mean	Std. Deviation
References per paragraph	Discipline Journals	3.0880	2.50270
	Association Journals	.4000	.45883
	Evaluation Journals	2.8200	2.58000
	Qualitative Journals	1.3900	1.19380
	Quantitative Journals	6.1505	8.63938
	University Journals	1.7700	1.56040
	Total	2.6031	4.23934
Words per paragraph	Discipline Journals	150.7000	38.76979
	Association Journals	96.6700	24.09239
	Evaluation Journals	130.7700	25.87454
	Qualitative Journals	145.1500	40.12396
	Quantitative Journals	142.9700	28.83260
	University Journals	139.1400	39.13992
	Total	134.2333	37.35731

Number of Words with 3 or More Syllables

Post-hoc comparisons using the Tukey HSD test indicated that the mean score for Association Journals was significantly different from Discipline Journals, Evaluation Journals, Qualitative Journals, Quantitative Journals and University Journals. In addition, Discipline Journals were significantly different from Evaluation Journals and Quantitative Journals. Finally, Quantitative Journals were significantly different from University Journals. All in all, there were many significant differences in this particular variable. This will be discussed at length in chapter 5. Thirty-four percent of the variance can be explained by the treatment.

Table 14: Homogeneous Subset—Number of Words with 3 or More Syllables

Journal Type	N	Subset for alpha = .05			
		1	2	3	4
Association Journals	20	17.1760			
Discipline Journals	20		21.2735		
University Journals	20		21.8885	21.8885	
Qualitative Journals	20		23.2845	23.2845	23.2845
Evaluation Journals	20			25.3745	25.3745
Quantitative Journals	20				26.5545
Sig.		1.000	.690	.124	.174

Means for groups in homogeneous subsets are displayed.

a Uses Harmonic Mean Sample Size = 20.000.

Number of Single Syllable Words

Post-hoc comparisons using the Tukey HSD test indicated that the mean score for Association Journals was significantly different from Discipline Journals, Evaluation Journals, Qualitative Journals, Quantitative Journals and University Journals. This was the only

significant difference regarding this variable. Association Journals had a much greater occurrence of single syllable words compared to all other groups. Twenty-five percent of the variance can be explained by the treatment.

Table 15: Homogeneous Subset—Number of Single Syllable Words

Journal Type	N	Subset for alpha = .05	
		1	2
Evaluation Journals	20	48.7115	
Quantitative Journals	20	48.8620	
Qualitative Journals	20	52.1915	
University Journals	20	52.5424	
Discipline Journals	20	52.8470	
Association Journals	20		58.2030
Sig.		.188	1.000

Means for groups in homogeneous subsets are displayed.

a Uses Harmonic Mean Sample Size = 20.000.

Percentage of Passive Voice

Post-hoc comparisons using the Tukey HSD test indicated that the mean score for Quantitative Journals was significantly different from all of the other journal types. This was the only significant difference regarding passive voice with Quantitative Journals having a greater likelihood of using the passive voice. Twenty-five percent of the variance can be explained by the treatment.

Table 16: Homogeneous Subset—Percentage of Passive Voice

Journal Type	N	Subset for alpha = .05	
		1	2
Qualitative Journals	20	.9410	
Association Journals	20	2.0755	
University Journals	20	3.4375	
Evaluation Journals	20	3.7790	
Discipline Journals	20	3.9195	
Quantitative Journals	20		8.9880
Sig.		.301	1.000

Means for groups in homogeneous subsets are displayed.

a Uses Harmonic Mean Sample Size = 20.000.

Total Usage of Acronyms

Post-hoc comparisons using the Tukey HSD test indicated that the mean score for Quantitative Journals was significantly different from all of the other journal types. This was the only significant difference regarding the use of acronyms with Quantitative Journals having a greater likelihood of using acronyms. Twenty-seven percent of the variance can be explained by the treatment.

Table 17: Homogeneous Subset—Total Usage of Acronyms

Journal Type	N	Subset for alpha = .05	
		1	2
Association Journals	20	.4500	
University Journals	20	.7000	
Evaluation Journals	20	.9000	
Qualitative Journals	20	1.6500	
Discipline Journals	20	2.2665	
Quantitative Journals	20		7.7000
Sig.		.751	1.000

Means for groups in homogeneous subsets are displayed.

a Uses Harmonic Mean Sample Size = 20.000.

Total Use of Contractions

Post-hoc comparisons using the Tukey HSD test indicated that the mean score for Association Journals was significantly different from all other groups except for Discipline Journals. The similarity of Association Journals and Discipline Journals will be discussed in the last chapter. Eighteen percent of the variance can be explained by the treatment.

Table 18: Homogeneous Subset—Total Use of Contractions

Journal Type	N	Subset for alpha = .05	
		1	2
Evaluation Journals	20	.0000	
Qualitative Journals	20	.0000	
Quantitative Journals	20	.0000	
University Journals	20	.2500	
Discipline Journals	20	.8500	.8500
Association Journals	20		1.3000
Sig.		.164	.799

Means for groups in homogeneous subsets are displayed.

a Uses Harmonic Mean Sample Size = 20.000.

Percentage of First Person Sentences

Post-hoc comparisons using the Tukey HSD test indicated that the mean score for Quantitative Journals was significantly different from both Discipline Journals and Association Journals with the occurrences being much less frequent. Approximately 12% of the variance can be explained by the treatment.

Table 19: Homogeneous Subset—Percentage of First Person Sentences

Journal Type	N	Subset for alpha = .05	
		1	2
Quantitative Journals	20	2.2880	
Evaluation Journals	20	14.7710	14.7710
Qualitative Journals	20	16.0065	16.0065
University Journals	20	17.6815	17.6815
Association Journals	20		21.8505
Discipline Journals	20		24.7000
Sig.		.127	.583

Means for groups in homogeneous subsets are displayed.

a Uses Harmonic Mean Sample Size = 20.000.

Percentage of Second Person Sentences

It is interesting to note, that while the ANOVA analysis reveals that there is a difference somewhere in this group, the Tukey HSD did not find any singular significant difference within this group. Approximately 9% of the variance can be attributed to the treatment.

Table 20: Homogeneous Subset—Percentage of Second Person Sentences

Journal Type	N	Subset for alpha = .05
		1
Evaluation Journals	20	.0000
Discipline Journals	20	.3165
University Journals	20	.3780
Quantitative Journals	20	.3815
Qualitative Journals	20	2.2590
Association Journals	20	4.2210
Sig.		.070

Means for groups in homogeneous subsets are displayed.

a Uses Harmonic Mean Sample Size = 20.000.

Average Sentence Length

Post-hoc comparisons using the Tukey HSD test indicated that the mean score for Association Journals was significantly different from Discipline Journals, Evaluation Journals, Qualitative Journals, Quantitative Journals and University Journals. In addition, it was found that Evaluation Journals were significantly different from Qualitative Journals. However, both of these were different from Association Journals. In this case, there are three levels of sentence lengths in academic journals in education. Approximately 25% of the variance can be explained by the grouping treatment of the data.

Table 21: Homogeneous Subset—Average Sentence Length

JournalType	N	Subset for alpha = .05		
		1	2	3
Association Journals	20	20.3615		
Qualitative Journals	20		24.5705	
Quantitative Journals	20		25.3620	25.3620
Discipline Journals	20		25.9650	25.9650
University Journals	20		26.1295	26.1295
Evaluation Journals	20			28.8690
Sig.		1.000	.887	.152

Means for groups in homogeneous subsets are displayed.
 a Uses Harmonic Mean Sample Size = 20.000.

Percentage Simple Sentences

Post-hoc comparisons using the Tukey HSD test indicated that the mean score for Qualitative Journals differed significantly from Quantitative Journals with Quantitative Journals having a greater proportion of simple sentences. This was the only significant difference found. Approximately, 10% of the variance in the groups can be explained by the grouping treatment.

Table 22: Homogeneous Subset—Percentage Simple Sentences

JournalType	N	Subset for alpha = .05	
		1	2
Qualitative Journals	20	34.6680	
Discipline Journals	20	38.2675	38.2675
University Journals	20	42.5650	42.5650
Association Journals	20	44.8805	44.8805
Evaluation Journals	20	45.4335	45.4335
Quantitative Journals	20		47.7475
Sig.		.138	.253

Means for groups in homogeneous subsets are displayed.

a Uses Harmonic Mean Sample Size = 20.000.

Percentage Complex Sentences

It is interesting to note, that while the ANOVA analysis reveals that there is a difference somewhere in this group, the Tukey HSD did not find any singular significant difference. Ten percent of the variance in the groups can be explained by the treatment.

Table 23: Homogeneous Subset—Percentage Complex Sentences

JournalType	N	Subset for alpha = .05
		1
Quantitative Journals	20	41.5865
Association Journals	20	42.1815
Evaluation Journals	20	46.3470
Discipline Journals	20	48.9860
Qualitative Journals	20	51.6965
University Journals	20	52.3185
Sig.		.108

Means for groups in homogeneous subsets are displayed.

a Uses Harmonic Mean Sample Size = 20.000.

Percentage Compound/Complex Sentences

Post-hoc comparisons using the Tukey HSD test indicated that the mean score for University Journals was significantly different from both Association Journals and Qualitative Journals. In both cases the usage of compound/complex sentences was less frequent in the University Journals. Approximately 11% of the variance in the groups can be explained by this grouping treatment.

Table 24: Homogeneous Subset—Percentage Compound/Complex Sentences

JournalType	N	Subset for alpha = .05	
		1	2
University Journals	20	1.7670	
Evaluation Journals	20	2.8755	2.8755
Quantitative Journals	20	4.1425	4.1425
Association Journals	20	4.9775	4.9775
Discipline Journals	20		6.3520
Qualitative Journals	20		6.5335
Sig.		.319	.187

Means for groups in homogeneous subsets are displayed.
 a Uses Harmonic Mean Sample Size = 20.000.

Percentage Declarative Sentences

Post-hoc comparisons using the Tukey HSD test indicated that the mean score for Association Journals was significantly different from Evaluation Journals, Qualitative Journals and Quantitative Journals. There were fewer declarative sentences in each case. This was the only significant difference in the group. Approximately 16% of the variance can be explained by the treatment in this study.

Table 25: Homogeneous Subset—Percentage Declarative Sentences

JournalType	N	Subset for alpha = .05	
		1	2
Association Journals	20	88.9435	
Discipline Journals	20	94.2590	94.2590
University Journals	20	94.9455	94.9455
Qualitative Journals	20		95.8700
Evaluation Journals	20		98.0540
Quantitative Journals	20		99.0080
Sig.		.127	.352

Means for groups in homogeneous subsets are displayed.

a Uses Harmonic Mean Sample Size = 20.000.

Percentage Interrogative Sentences

Likewise, post-hoc comparisons using the Tukey HSD test indicated that the mean score for Association Journals was significantly different from Evaluation Journals, Qualitative Journals and Quantitative Journals. There were more interrogative sentences in each case. This was the only significant difference in the group. Fourteen percent of the variance can be explained by this particular treatment of the data.

Table 26: Homogenous Subset—Percentage Interrogative Sentences

JournalType	N	Subset for alpha = .05	
		1	2
Quantitative Journals	20	.6105	
Evaluation Journals	20	1.4965	
Qualitative Journals	20	2.6010	2.6010
University Journals	20	3.8765	3.8765
Discipline Journals	20	4.5570	4.5570
Association Journals	20		8.5230
Sig.		.404	.055

Means for groups in homogeneous subsets are displayed.

a Uses Harmonic Mean Sample Size = 20.000.

References per Paragraph

Post-hoc comparisons using the Tukey HSD test indicated that the mean score for Quantitative Journals was significantly different from Association Journals, Qualitative Journals and University Journals. In each case, there were a greater number of references in the Quantitative Journals. This was the only significant difference found with regard to references. In this instance, almost 19% of the variance was can be attributed to the grouping of this data.

Table 27: Homogeneous Subset—References per Paragraph

JournalType	N	Subset for alpha = .05	
		1	2
Association Journals	20	.4000	
Qualitative Journals	20	1.3900	
University Journals	20	1.7700	
Evaluation Journals	20	2.8200	2.8200
Discipline Journals	20	3.0880	3.0880
Quantitative Journals	20		6.1505
Sig.		.258	.084

Means for groups in homogeneous subsets are displayed.

a Uses Harmonic Mean Sample Size = 20.000.

Words per Paragraph

Post-hoc comparisons using the Tukey HSD test indicated that the mean score for Association Journals was significantly different from Discipline Journals, Evaluation Journals, Qualitative Journals, Quantitative Journals and University Journals. While this is the only significant difference found, it is noteworthy that the category of Association Journals used far fewer words per paragraph than any other group. Approximately 23% of the variance can be attributed to the treatment of this variable.

Table 28: Homogeneous Subset—Words per Paragraph

JournalType	N	Subset for alpha = .05	
		1	2
Association Journals	20	96.6700	
Evaluation Journals	20		130.7700
University Journals	20		139.1400
Quantitative Journals	20		142.9700
Qualitative Journals	20		145.1500
Discipline Journals	20		150.7000
Sig.		1.000	.418

Means for groups in homogeneous subsets are displayed.

a Uses Harmonic Mean Sample Size = 20.000.

Other Variables

Any other variable not listed above did not have a significant difference when compared to the other groups. In these cases, the characteristics are common to all journal types. These are shown in Table 29.

Table 29: Common Variables with F and P Statistics

	F	Sig.
Percentage of sentences with 'this as subject	1.034	.401
Percentage of uses of "to be" verbs	2.250	.054
Total uses of figurative language	1.704	.139
Standard deviation of sentence length	1.697	.141
Percentage compound sentences	.297	.914
Percentage periodic sentences	1.166	.330
Percentage loose sentences	1.951	.091
Percentage of direct quotes	2.253	.054
Percentage imperative sentences	1.338	.253
Percentage exclamatory sentences	1.000	.421
Sentences per paragraph	2.100	.070

Independent t-test and ANOVA Test for Group Homogeneity

As noted previously, one of the underlying assumptions behind this study was that each of the journal groups would be homogenous. A t-test was used to test the homogeneity of each group that consisted of two journals and a one-way ANOVA on groups of three or more journals.

T-test—Discipline Journals

An independent samples t-test was conducted to compare the characteristics of writing style between the two discipline journals studied in this category—*English Education* and *Science Education*. A significant difference was found in three of the variables: number of words of three or more syllables, percentage of periodic sentences and the number of references per paragraph. The first variable, the number single syllable words, revealed a significant difference between the two groups ($t(18) = -1.840, p < .05$). The mean of *English Education* ($m = 56.16, sd = 4.75$) was significantly higher than that of *Science Education* ($m = 49.52, sd = 7.44$). The second variable that showed a significant difference, percentage of periodic sentences, revealed a significant difference between the two groups ($t(18) = 3.287, p < .05$) with mean of *English Education* ($m = 16.13, sd = 8.55$) being significantly higher than that of *Science Education* ($m = 6.42, sd = 3.78$). The third variable that showed a significant difference, number of references per paragraph, revealed a significant difference between the two groups ($t(18) = -2.263, p < .05$) with mean of *English Education* ($m = 1.94, sd = 1.54$) being significantly lower than that of *Science Education* ($m = 4.24, sd = 2.82$). Of all of the journal categories, this group proved to be the most problematic as far homogeneity is concerned. However, because only three of the twenty-eight variables were significantly different, the overall homogeneity was

sound. The few differences will be discussed later.

ANOVA—Association Journals

An ANOVA was conducted to compare the characteristics of writing style among the four discipline journals studied in this category—*Educational Horizons*, *Educational Forum*, *The Kappan* and *Educational Leadership*. No significant differences were found among any of the groups. Therefore, it is assumed that the category is homogeneous.

T-test—Evaluation Journals

An independent samples t-test was conducted to compare the characteristics of writing style between the two discipline journals studied in this category—*American Educational Research Journal* and *Educational Evaluation and Policy Analysis*. No significant differences were found between any of the variables. Therefore, it is assumed that the category is homogeneous.

T-test—Qualitative Journals

An independent samples t-test was conducted to compare the characteristics of writing style between the two discipline journals studied in this category—*Educational Researcher* and *Educational Theory*. No significant differences were found between any of the variables. Therefore, it is assumed that the category is homogeneous.

T-test—Quantitative Journals

An independent samples t-test was conducted to compare the characteristics of writing

style between the two discipline journals studied in this category—*Structural Equation Modeling* and *Educational and Psychological Measurement*. The only variable that exhibited any difference between the journals was the percentage of compound sentences ($t(18) = -2.565, p < .05$) with mean of *Structural Equation Modeling* ($m = 1.63, sd = 3.03$) being significantly lower than that of *Educational and Psychological Measurement* ($m = 10.41, sd = 10.39$). Although there was one difference, it is assumed that the category is homogeneous because of the relative insignificance of this variable.

ANOVA—University Journals

An ANOVA was conducted to compare the characteristics of writing style among the four discipline journals studied in this category—*Harvard Educational Review*, *Teacher's College Record*, *Peabody Journal of Education* and *Thresholds in Education*. No significant differences were found among any of the groups. Therefore, it is assumed that the category is homogeneous.

Homogeneity Summary

Based on the comparison of groups between and among journals, it was found that there was almost perfect homogeneity between and among the groups. There were only four instances of differences found in any of the categories. Therefore, it can be assumed that each of the groups, with the exception of the discipline journals, is homogenous, and that the category of Discipline Journals was virtually homogenous with the exception of journals that had differences in the single syllable words variable, periodic sentences variable and number of references.

CHAPTER FIVE: DISCUSSION AND RECOMMENDATIONS

Introduction

This chapter will present a discussion on the analysis of the findings of this study and each of the research questions. The primary purpose of this study was to determine the characteristics of academic writing in education as defined in chapter two. These findings might suggest the characteristics of academic and scholarly writing in education in order for graduate students, professors and other professionals to effectively communicate ideas in an academic setting. It would allow authors to not only write in a style that approximates the previously noted unstated expectations found in this type of academic writing, but to submit articles to publications that have a similar style and structure. This would enable authors to find more success in their publication endeavors.

In order to effectively illustrate the characteristics of academic writing in education, a quick overview of the research questions, a re-examination of the focus of the study and the basic research findings will be reviewed. This brief review will be followed with a thorough discussion of the results of this research through a reassessment of each of the research questions, a statement of the implications of the findings, suggestions regarding instructional and curricular ramifications, and, finally, a reflection of possible areas of further study.

Research Questions

In review, the research questions for this study were, (1) What, if any, are the discernable and general characteristics of academic writing in education? (2) Is there a difference in writing

style across, among, and/or between various types of academic journals in education? And (3) what might be the writing style criteria of academic writing in education?

Research Question #1

Common Features

In order to determine the discernable characteristics of academic writing in education, the first step taken was to extract any characteristics that were common to all types of academic and scholarly writing in education. These were the variables that did not produce a significant difference in the ANOVA statistics that were run on the data. Although previously noted in chapter four, the results are reiterated here.

- Percentage of sentences with “this” as subject
- Percentage of uses of “to be” as verb
- Total uses of figurative language
- Number of uses of biased language
- Standard deviation of sentence length
- Percentage of compound sentences
- Percentage of periodic sentences
- Percentage of loose sentences
- Percentage of direct quotes
- Percentage of imperative sentences
- Percentage of exclamatory sentences
- Sentences per paragraph

Looking at this group, the commonalities of the writing style of academic writing can be easily defined. Perhaps the easiest way to define this style of writing is by defining what it does not have. First and foremost, the use of biased language was non-existent. Not one instance of biased language was found in any article or journal. In addition, there was virtually no use of figurative language (.24%) or the use of the indefinite pronoun ‘this’ as a subject of a sentence

(1.21%). Therefore, these should be explicit rules in academic writing in education. Any writer aiming for professionalism in writing or for potential publication should avoid these stylistic characteristics. In addition, in the introductory material of articles of this type, there was little use of direct quotes (4.82%) with most of the quoted materials preceding the first original paragraph. Finally, with regard to stylistic features that should not be found in academic writing are the use of imperative sentences (.73%) and exclamatory sentences (.1%). It is obvious that commands and directions should be left to other portions of the narrative if used at all.

On the opposite end of the spectrum, there were three features that were used in abundance. First, almost one-fourth of all sentences used a form of the verb 'to be' as the main and solitary verb in the main clause. In recording the information, the use of 'to be' was not considered as part of a verb phrase. The high rate of usage of 'to be' suggests that this is a key component of the academic style of educational writing.

Structurally, two features are noteworthy. The placement of the subject of the sentence, either loose (beginning of the sentence) or periodic (end of the sentence), was common to all of the categories of articles. Much less frequent was the use of periodic sentences, where only 10.29% of the sentences had this feature. Likewise, more than 58% of the sentences had a loose structure. This loose structure, immediately introducing the subject of the sentence, suggests the direct nature of academic writing in education. It is interesting to note that the total of these does not amount to 100%. The reason for this is that some sentences were either balanced, or had two main clauses.

Extracted Features

Because virtually all of the differences in groups occurred because the Association Journals and the Quantitative Journals were different from the rest of the journal categories (as will be noted later), extracting these groups from the overall data set was thought to produce the other discernable characteristics of general academic writing in education. However, upon removing these two groups from the overall set of data, there were virtually no differences. The differences are shown in Table 30.

Table 30: Raw Mean Minus Mean Adjusted by Removing Significantly Different Categories

	Mean	Mean - Extracted	Difference
Number of words with 3 or more syllables	22.59	22.96	-0.36
Number of single syllable words	52.23	51.57	0.65
Percentage of passive sentences	3.86	3.02	0.84
Total usage of acronyms	2.28	1.38	0.90
Total use of contractions	0.40	0.28	0.13
Percentage of first person sentences	16.22	18.29	-2.07
Percentage of second person sentences	1.26	0.74	0.52
Average sentence length	25.21	26.38	-1.17
Percentage simple sentences	42.26	40.23	2.03
Percentage complex sentences	47.19	49.84	-2.65
Percentage compound/complex sentences	4.44	4.38	0.06
Percentage declarative sentences	95.18	95.78	-0.60
Percentage interrogative sentences	3.61	3.13	0.48
References per paragraph	2.60	2.27	0.34
Words per paragraph	134.23	141.44	-7.21

The reason for this failure to significantly change the quantitative characteristics of academic writing in education can be explained through understanding the relationship of these two groups

compared to the overall data set. The group of Association Journals had significantly lower occurrences of the data in question while the Quantitative Journals had significantly higher occurrences of the data in question. In essence, they cancelled each other out. Therefore, it can be assumed that the other results are suggestive of the general characteristics of academic writing in education.

Other General Features of Academic Writing in Education

As noted in the previous section, although these additional general features of academic writing in education include the significantly different categories of journals, overall, their effect had little influence on the overall nature of this academic writing. Like the previous discussion, this section will first note the characteristics of writing that should be avoided, followed by the characteristics that are most common.

As previously mentioned, certain characteristics of writing should be avoided in order to write in a style that follows the general pattern of academic writing in education. First, passive sentences should be kept to a minimum. In this study, passive sentences were quite rare (3.86%). This occurrence reflects many of the guidelines regarding scholarly writing and academic writing in education (Huff, 1999; Klingner, Scanlon & Pressley, 2005). In addition, the use of acronyms should be kept to a minimum (Klingner, Scanlon & Pressley, 2005). In the sample of writing from these journals, on the whole, acronyms were used sparingly (2.28 occurrences per article). Likewise, the use of contractions (.4 occurrences per article) was even rarer, while the use of second person sentences closely followed (1.26%). Because of the demonstrative nature of academic writing, overall, the use of interrogative sentences was limited (3.61%) when seen as a

whole, as well as the use of compound/complex sentences (4.44%). Because of the rarity of each of these stylistic devices, a guideline could be developed that suggests the avoidance of them.

Perhaps the two easiest characteristics of academic writing in education to identify are the size and frequency of the words used and the types of sentences that are used. Overall, there are two and one-half times more single syllable words used than words of three or more syllables (52.23% and 22.59% respectively). This fact is even more pronounced considering that in this study, years and formulas were considered as multi-syllable words. As an overall description of academic writing in education, this predominance of single syllable words suggests that the writing style of educational journals is readable for the most part. Although the language does have a significant percentage of complex words, the vast majority (78%) have two or fewer syllables.

The second characteristic that is indicative of academic writing in education is the structure of the sentences used. Almost 90% of the sentences are either simple or complex (42.26% and 47.19% respectively). What this reveals is that structurally, virtually all of the sentences used contain only one main idea. The rest of the sentence is supporting or subordinate materials used for clarifying the main point. This is important because each sentence presents a simple idea that supports the major premise of the overall paper in some way.

Finally, there are three other characteristics of writing style that were studied that have not yet been mentioned. The average sentence length for the articles studied was twenty-five words. The standard deviation for this particular variable was relatively low ($sd = 5.14$) which shows that 75% of the sentences had between twenty and thirty words. It is interesting to note that one of the guidelines of the American Psychological Association regarding style suggests that authors should vary their sentence length. This sample shows that in academic writing in

education, this does not happen frequently. However, many of the specialists in academic writing in education, including Jalongo (2002), Richards and Miller (2005), and Klingner, Scanlon and Pressley (2005) suggest that authors should avoid wordiness. Whether the use of sentences of twenty to thirty words suggests a lack of wordiness might be the subject of further study. In addition, the use of too many words might inhibit potential writers from publishing.

Coupled with the statistics regarding sentence length is the mean words per paragraph. The average paragraph contained one hundred, thirty-four words with a standard deviation of thirty-seven. Because of the relatively large standard deviation, this variability suggests that while there is little diversity in the length of the sentence, the composition of the paragraphs are quite more diverse. The high variability of sentences per paragraph ($m = 5.35$, $sd = 1.83$) would account for this diversity of words per paragraph.

Internal Differences within Discipline Journals

The only category that showed significant variation within the group was that of Discipline Journals. While the variation was not great, it must be mentioned. While other journal categories were broad in their content and focus, the Discipline Journals category was quite narrow in topic. Because of this, the audience for each of the journals, *English Education* and *Science Education*, while focusing on practitioners, focused on a particular audience instead of a general readership. *English Education* had characteristics that were more indicative of the Association Journals (word size and use of references), while *Science Education* had more in common with Quantitative Journals. Because of the more liberal arts nature of the study of English and the more quantitative nature of science, these differences can be explained. Aside from this group, there was internal consistency within groups.

Research Question #2

Introduction

While the overall characteristics of academic writing in education have been described in the previous section, another significant part of this research was to determine if the categories of academic writing differed in writing style. While chapter four thoroughly described the statistical findings of the research, this section will describe major differences that were discovered. Overall, although there are small variations, the categories could be summarized into three main writing style groups, Association Journal writing style, Quantitative Journal writing style, a general education writing style. The general education writing style was the focus of research question one and was described as to scope and purpose. However, the stylistic characteristics of both the Association Journals and the Quantitative Journals separate them from the general style of academic writing in education.

Association Journals

The first category of academic writing in education that is different from other types of educational writing is the style related to Association Journals. In relation to all of the other groups, ten out of the fifteen significant differences discovered through the application of the ANOVA statistic involved the Association Journals. In addition, four of the variables separated the Association Journals from all other groups. Therefore, the style of writing found in journals tied to associations was deemed to be a subset of a broader style encompassing all of academic writing in education.

The major stylistic differences found in the Association Journal group occurred with regard to word choice (word length), sentence length, words per paragraph, number of contractions used, and use of interrogative sentences. In addition, there were differences between Association Journals and other groups that will be noted.

Overall, Association Journals had a statistically significant difference in the percentage of words with three or more syllables ($m = 17.17$) with Association Journals being lower than the overall mean. Likewise, the percentage of single syllable words ($m = 58.2$) was significantly higher than the mean. This fact, grouped with the shorter mean for sentence length ($m = 20.36$), the fewer words per paragraph ($m = 96.67$), and the fourfold increase in the use of contractions ($m = 1.3$) suggest a writing style that is drastically different from the other forms of academic writing in education. In addition, there is a much greater frequency of interrogative sentences ($m = 8.52$) in this style of writing. Taken as a whole, these features suggest a more conversational style. The language is more simple, there are more contractions, there are more rhetorical questions and the sentences are much shorter. Finally, although there are similarities between this group and the Discipline Journal group in reference to the number of first person sentences used, this also leads to a more conversational and readable style.

Although this study purposefully excluded any reference to colloquial language as a matter of data collection, this category of journals could be considered more colloquial. There is a personal nature to the writing through the use of the first person, contractions and simple language. Perhaps, this suggests that the journals in this category, *Educational Forum*, *Educational Horizons*, *The Kappan* and *Educational Leadership*, are more colloquial and therefore more readable to the general public. The features of the style of this journal set it apart from the general style of academic writing in education.

Quantitative Journals

Just as Association Journals might be defined as colloquial and conversational, Quantitative Journals might be considered the opposite. This is not to say that these journals are lesser in any way. The purpose is for a different audience. Overall, the journals classified as quantitative in this study used a much higher percentage of the word 'this' as the subject ($m = 1.97$, $sd = 3.2$) of the main clause. In addition, there was a much greater use of acronyms ($m = 7.7$, $sd = 6.22$). Likewise, there was a significant increase in the use of the passive voice ($m = 8.99$, $sd = 6.7$). Finally, Quantitative Journals had a significant difference from most of the other categories (excluding Evaluation and University Journals) with the use of references ($m = 6.15$, $sd = 8.64$), with Quantitative Journals averaging more than six references per sample which was three times higher than the population mean.

Aside from the differences found in relation to the general characteristics of academic writing in education, there were other significant differences that should be noted. Perhaps the most noteworthy is the fact that while there were no significant differences between Quantitative Journals and the overall characteristics of academic writing in education with regard to first person sentences, there were significant differences between Quantitative Journals ($m = 2.29$, $sd = 4.74$) and Association Journals ($m = 21.85$, $sd = 28.16$). This, along with the fact that there were many more references, more uses of the passive voice, and a greater use of acronyms, suggests that the category of Quantitative Journals has a voice that is more technical. The increased use of acronyms suggests an audience that is familiar with the jargon and lingo of the field. The decreased use of first person sentences reduces the sense of familiarity with the audience. These features, blended with the vastly increased use of references, insinuate that the

introductory material in the quantitative journal studied is more technical and supported by outside ideas so as to solidify a research foundation.

Aside from this, there were few other deviations of note regarding other categories of journals.

Summary

Overall, the results of this research question suggest that there are three types of academic writing in education. First, there is the broad, general category of all academic writing in education as illustrated previously. In addition, there is a style associated with Association Journals that is colloquial and conversational and might be of great use for new post-secondary students for academic reading. In addition, there is a third category of academic writing in education that is found in the Quantitative Journals. This style is less personal and more technical, reflective of a different style. It is interesting to note that of all of the journals that were selected for this study, the category of Quantitative Journals was the only one that included a journal that was not purely for some sort of educational audience.

Research Question #3

Although this third research question—what might be the writing style criteria of academic writing in education—might be considered redundant, it was proposed as a summary question to clearly define the overall criteria found in academic writing in education. Besides all of the numbers and statistics, the percentages and the item counts, some valuable information can be attained by summarizing the findings as a set of criteria for this style of writing. Overall, the

writing style specific to educational journals and academic writing in education can be summarized as follows.

First, style is an important component to writing. Although this might seem like an obvious statement, the reviewers guidelines in appendices C-F all have rating categories regarding writing style. These range from *Educational Horizons*’, “Readability appropriate,” to *Educational Forum*’s, “Have a concise, logical, scholarly writing style.” Reviewers, professors, editors and all decision making parties pay attention to writing style. However, as noted earlier, style is the one aspect that is often overlooked. The importance of style leads directly to writing for an audience.

An author must pay attention to the audience for whom he/she writes. As noted in research question two, there is a specific writing style in some types of academic writing in education. Association Journals are quite different from general educational journals. Likewise, Quantitative Journals are much less conversational than Association Journals. When addressing an audience, an author must consider whether or not the article in question fits with the style of the audience.

Specifically, there are certain features of general academic writing in education that need to be reiterated. Authors should:

- Consider the difficulty of the vocabulary used and focus on words that are shorter;
- Avoid using ‘This’ as the subject of a sentence;
- Write in an active voice;
- Limit the use of acronyms;
- Use figurative language sparingly;
- Do not use contractions;
- While the use of the first person point of view is acceptable, do not overuse it;
- Never use biased language;
- Sentences should range from twenty to thirty word long, however, sentence diversity is important;

- Write primarily with only one main subject to each sentence;
- Place the main subject at the beginning of the sentence;
- Limit the use of direct quotes. Only use when necessary;
- Write primarily with declarative sentences; and
- Use references as appropriate, but do not reference everything.

By following these guidelines, writers of educational prose for academic purposes might be able to increase chances for publication and to contribute to the canon of literature on education.

This Dissertation

As a corollary to this study, this dissertation was analyzed using the writing style analysis tool in order to validate its place in this style of writing. The introductory material was written before the study was started. As the author and an English teacher, I felt that my background in English, rhetoric and composition would allow me to write in a style that was complementary to that of academic writing in education. In the introduction to this research, I suggested that while writing style is an essential part of publication and writing, few people know how to write and even fewer can recognize the style of a particular article. I felt my background would allow me to write appropriately. The results are found in Table 31.

I must admit the dismay that I felt when I saw that my writing did not fall into the first standard deviation for seven different categories. I believed that my experience in writing and rhetoric would have allowed me to see the subtleties in the writing style that I had been reading for the past four years. The specific discrepancies are, although many times trivial, significant to this discussion.

Table 31: The Writing Style of this Dissertation Compared to the Norm

	Sample	Predicted Range		Dissertation
	Mean	Minimum	Maximum	
Number of words with 3 or more syllables	22.59	17	28	19.31
Number of single syllable words	52.23	46	59	52.5
Percentage of sentences with 'this as subject	1.21	0	4	0
Percentage of uses of "to be" verbs	23.25	10	37	38.64*
Percentage of passive sentences	3.86	0	9	0
Total usage of acronyms	2.28	0	7	0
Total uses of figurative language	0.24	0	1	0
Total use of contractions	0.40	0	2	0
Percentage of first person sentences	16.22	0	36	6.82
Percentage of second person sentences	1.26	0	6	4.55
Number of uses of biased language	0.00	0	0	0
Average sentence length	25.21	20	30	15.89*
Standard deviation of sentence length	11.34	8	14	9.8
Percentage simple sentences	42.26	28	56	61.36*
Percentage compound sentences	6.37	0	14	2.27
Percentage complex sentences	47.19	34	61	34.09
Percentage compound/complex sentences	4.44	0	10	2.27
Percentage periodic sentences	10.29	3	18	27.27*
Percentage loose sentences	58.18	45	71	34.09*
Percentage of direct quotes	4.83	0	13	15.27*
Percentage declarative sentences	95.18	87	103	90.9
Percentage interrogative sentences	3.61	0	11	9.1
Percentage imperative sentences	0.74	0	3	0
Percentage exclamatory sentences	0.10	0	1	0
Sentences per paragraph	5.35	4	7	9.4*
References per paragraph	2.60	0	7	2.2
Words per paragraph	134.23	97	172	165
Total number of words in first five paragraphs	671.52	485	858	825

Note—* = results that fell outside of one standard deviation

Perhaps the best way to analyze the differences between the introduction to this dissertation and the introductions to the sample would be to describe the major differences. The most drastic difference between this dissertation and the writing found in this sample of

academic writing of education was the use of periodic and loose sentences. The frequency of periodic sentences was much greater in this dissertation than in the general style of academic writing in education. Likewise, the frequency of loose sentences was much less. Personally, I attribute this to my background in classical rhetoric in which an author often tries to build suspense by delaying the subject of a sentence until introductory material has been delivered. However, as a reader, I never considered the subject placement in the articles I read. Therefore, although I have a background in writing, I never considered the structure of the language that I was reading and likewise trying to imitate. Students with other backgrounds might suffer from the same lack of knowledge. As noted previously, Delyser (2003) states that many graduate students are under-prepared in the background of writing and are unable to effectively present their findings. If graduate students are under-prepared because of a lack of knowledge, would it not make sense that this could carry over into professional life?

The other areas of significant difference were much less extreme. There was a slight elevation from the norm of the use of 'to be' verbs, a slight increase in simple sentences, a slight increase of direct quotes (mostly attributed to the long quote introducing this dissertation), and a mild deviation in the number of sentences per paragraph. Finally, there was one other major difference between the writing style of this dissertation and that of the sample of introductions from the journals studied. The average sentence length for the general characteristics of academic writing in education suggests that an average sentence would have between twenty and thirty words. The introduction to this dissertation had an average sentence length of sixteen words. Perhaps, because there were more simple sentences and a few series of short sentences with a parallel structure, this difference can be explained.

Overall, the writing in this dissertation closely matched that of the general style of academic writing in education. If anything, there were tendencies of this dissertation being closer to Association Journals and, perhaps not surprisingly, *English Education*, within the Discipline Journal category. It was noted previously that the Discipline Journal category had more internal deviations than any other group. The major differences can be found in these subsets of the general writing style in academic writing in education.

Ultimately, there were some striking differences between this dissertation and the studied sample that show that an academic style is not natural. An academic style must be learned. An academic style must be taught. An academic style must be practiced.

Recommendations

Based on the information gathered from this study, writing must be taught to students in graduate classes in order to produce the characteristics of academic writing that are necessary in professional educational writing. While an assumption might be made that the appropriate venue for this topic might be research classes, it should be noted that the purpose of research classes is to teach the foundations of research. Therefore, many of the journals in this study would not be applicable. Perhaps a focus on writing style in the various content courses in graduate and doctoral programs would be a more reasonable suggestion.

In addition, professionals must focus their writing style on the intended audience in order to write in a manner that is consistent with the specific journal or journal type. For this to happen, greater attention must be paid to the style of writing in academic journals in order to facilitate a personal writing style that is accessible to the audience of the journal, be it the reviewer, the editorial board or the general reading audience.

First and foremost, instruction in writing must increase at the graduate level. As Delyser (2003) found, for many students, the only experience in writing instruction occurred in a first year composition as an undergraduate. Kruse (2003) suggests that when students are learning to write, each should look at the product, the process and the text in order to gain insight into the various uses of writing as well as developing a role as a writer. Even this most simple explanation suggests the need for a greater understanding of the writing process. Perhaps in the first research class that is required for graduate students, time and effort can be directed toward a greater understanding of writing, the purposes of writing, and the style of writing necessary for professionalism.

Finally, although not considered in the original context of this study, the results of this research suggest a variety of levels regarding the readability of academic journals. It has been clearly illustrated that there are different levels of difficulty and readability in educational journals. Therefore, a consideration of writing style is essential when considering articles to be read by students. By taking into consideration the writing style of a journal, this might enable novice students to more effectively comprehend a text. As shown in the description of the second research question, certain journals have a more reader friendly style. Journals such as Educational Forum, Educational Horizons, Educational Leadership and The Kappan, might be excellent starting points for introducing academic literature to students. Because of their previously defined colloquial style, students might learn the content of contemporary educational thought in way that is not disconcerting. As students progress through their studies, more rigorous articles could be selected as experience grows.

Recommendations for Further Study

Based on this study, there are a number of other avenues of research that should be pursued. Obviously, a study of other journals would add to the clarity of the stylistic characteristics found in academic writing in education by showing the significant and subtle differences between writing styles. A study of other journals would also allow professionals to understand the specific writing style characteristics of a particular subject or genre. In addition, research into other subjects might help differentiate between different writing styles of the various disciplines so that potential authors could expand and/or limit their audience to other genres of writing.

Likewise, a study of other portions of articles written in education, such as the data section, the conclusion and the literature review would further enhance the understanding of academic writing in education and the various contexts in which it presents itself. This would also allow authors to gain a deeper understanding of their individual disciplines in matters of communication and the dissemination of information.

Finally, a more substantive look regarding individual journals and journal categories could be completed so that a more complete view of academic writing could be developed.

Conclusion

Although it might be thought that a study of this kind could be used to homogenize writing into a cut and paste style that becomes redundant and repetitive, that is not the focus of this research. As noted in the introduction, one of the predominant parts of academic life, whether it be work as a graduate student working toward graduation, a novice professor working on developing a line of research, a seasoned professor working toward tenure, or any other

professional with a great idea that needs to be shared, is publication. In order to increase the likelihood of meeting the demands of the audience, editor or reviewer, a writer needs to understand the basic writing style qualities particular to the type of writing desired. The purpose of this study was to describe the characteristics of academic writing in education so as to gain an entry point into a discussion of writing style.

It was discovered that, for the most part, there is a writing style in academic writing in education. This style has many of the previously noted characteristics of scholarly writing such as a limited use of the passive voice, the elimination of biased language and the use of simple constructions.

However, it was discovered that within the broad field of academic writing in education, there are variations on this writing style that include a large subset of journals that use a more colloquial and conversational style. In addition, technical journals have a style that is more distant and muted. In finding this, writing for a particular audience becomes much easier. First, the audience should be considered and the writing more purposefully geared for that audience. Second, writing in a style that is appropriate for a particular audience might increase acceptability rates and publication rates because an article might 'fit' a journal better.

Finally, it is important to note that communication is of vital importance. As information about education is gained, new ideas evolve and the need to communicate ideas grows. Becoming part of the conversation becomes essential. As noted in the introduction, in 1883, Coombs stated, "No thoughtful person will undertake a work of great importance without first making due preparation for its successful completion" (p. 11). While there is a vast amount of information regarding the content, the background, the physical structure, the statistical

reasoning and the basic style of academic writing in education, there is virtually nothing regarding the actual writing style. Perhaps this study will begin this part of the conversation.

APPENDIX A: WRITING STYLE INSTRUMENT

Article/Dissertation Number __/__()

Diction and Language

	<u>Occurrences</u>	<u>Notes</u>
Percentage of words of three or more syllables		
Percentage of uses of single syllable words		
Use of "This" as subject		
Number of uses of "To Be" verbs		
Percentage of passive voice		
Number of uses of acronyms		
Number of uses of figurative language		
Occurrences of contractions		
Percentage of first person sentences		
Percentage of second person sentences		
Occurrences of use of biased language		

Syntax and Sentences

	<u>Occurrences</u>	<u>Notes</u>
Average sentence length		
Standard Deviation of Sentence Length		
Percentage of simple sentences		
Percentage of compound sentences		
Percentage of complex sentences		
Percentage of compound/complex sentences		
Percentage of periodic sentences		
Percentage of loose sentences		
Percentage of direct quotes		

Sentence Types

	<u>Occurrences</u>	<u>Notes</u>
Percentage declarative sentences		
Percentage interrogative sentences		
Percentage imperative sentences		
Percentage exclamatory sentences		

Paragraphs

	<u>Occurrences</u>	<u>Notes</u>
Number of sentences per paragraph		
Number of references per paragraph		
Number of words per paragraph		
Total number of words in first five paragraphs		

APPENDIX B: INDIVIDUAL ARTICLE RECORD SHEET

APPENDIX C: EXCEL SPREADSHEET FORMAT

Part 1: Data Transformation

1/1(1)							
Total Words	707		Total words w/o quotes				674
Total Sentences	19		Total original sentences				19
3 or more	198	29.38%					
1	456	67.66%					
This as subject	0	0.00%					
To be	4	21.05%					
Passive	1	5.26%					
Acronyms	7						
Figurative	0						
Contractions	3						
First Person	6	31.58%					
Second Person	0	0.00%					
Third person	0	0.00%					
simple	3	15.79%					
compound	3	15.79%					
complex	11	57.89%					
c/c	2	10.53%					
periodic	5	26.32%					
loose	11	57.89%					
quotes		4.67%					
declarative	18	94.74%					
interrogative	0	0.00%					
imperative	1	5.26%					
exclamatory	0	0.00%					
SD of length	17.26						

sentence length		35.47					
sentences/para		3.8					
references/para		2.6					
words/para		141.4					

APPENDIX D: REVIEWERS GUIDELINES—EDUCATIONAL HORIZONS

**APPENDIX E: REVIEWERS GUIDELINES—PHILOSOPHY OF EDUCATION
SOCIETY**

**PES Annual Meetings
Program Committee Score Sheet – Paper Proposals**

Reviewer number:

Paper number:

Rubric

1-unacceptable/2-serious reservations/3-average/4-good/5-exemplary

Selection Criteria (please assess 1-5)

(1) Quality of argument/analysis:

(2) Quality of written expression:

(3) Relevance/importance to the field of philosophy of education:

Comments for author/presenter (please offer a rationale for your evaluation and suggestions for improvement):

Recommendation and rationale for Program Chair (this material will be held confidentially by the Program Chair)

Rubric

1-unacceptable/2-serious reservations: include in program only if necessary/3-acceptable concurrent session material/4-strong concurrent session material/5-exemplary: consider for general session

Recommendation to Program Chair (please assess 1-5):

Confidential comments for Program Chair:

APPENDIX F: REVIEWERS GUIDELINES—EDUCATIONAL FORUM



The Educational Forum **Manuscript Review Summary**

Title: **Proactive Media Engagement to Reframe Public Perceptions**
Reviewer: **FL**

MS#: **21F0506-0926**
Due Date: **10-28-05**

Editorial Mission

The Educational Forum solicits manuscripts that challenge existing ideological and theoretical boundaries on national and international educational issues. Through the inclusion of compelling, thought-provoking perspectives, *The Forum* intends to serve as a catalyst for stimulating and encouraging dialogue and for transforming the thinking about education.

Criteria

The following criteria reflect *The Forum's* editorial mission. Please evaluate how well the manuscript fulfills these objectives using a scale of 1-5, with 1 being “does not meet the criterion” and 5 being “meets/exceeds the criterion.” Please support your ratings with narrative, including detailed concerns, suggestions for improvement, and further explanation of your evaluation. Please click in the gray bar to enter your comments.

Does the manuscript:

	Does not meet criteria				Exceeds criteria	
Address a timely, critical educational issue?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		1	2	3	4	5
Have a clear, appropriately supported, logically presented thesis?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	1	2	3	4	5	
Integrate theory with examples or practical applications?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	1	2	3	4	5	
Provide sufficient, well-documented research data, if the article is empirical?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		1	2	3	4	5

(Please proceed to second page)

Have a concise, logical, scholarly writing style?	<input type="checkbox"/>	Does not meet criteria	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Exceeds criteria	<input type="checkbox"/>	
			1	2	3	4		5	
Make a worthwhile and interesting contribution to the knowledge base of educators?	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	
			1	2	3	4		5	
Have potential for promoting dialogue and provoking further study?	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	
			1	2	3	4		5	

Other Comments

Please offer any comments that would be helpful to the writer, particularly if a revision is suggested.

Recommendation

Please indicate which decision you feel is appropriate for this manuscript.

- Accept for publication without modification.
- Accept for publication with the minor modifications outlined.
- Return to author for major revision. If substantially modified, the manuscript could be reconsidered for publication. The revised manuscript will be subject to the review process again.
- Not acceptable for publication.

**To submit your review, enter your ratings and comments. Close and save the document.
Reopen the document and click on the forward button (not the reply button).
Send to pubs@kdp.org.**

**APPENDIX G: REVIEWERS GUIDELINES—CURRICULUM AND TEACHING
DIALOGUE**

Manuscript Evaluation Form

Reviewer: _____ Date Mailed: _____ Date Due: _____

Title:

Code: _____

Journal Category: _____

Recommendation:

_____ **Accept**

_____ **Accept with recommended revisions**

_____ **Reject (See comments...a complete overhaul would be necessary)**

Confidential Comments to the Editor Regarding Your Recommendation:

Please rate **and** make comments on:

- | | | | | | |
|---|----------|----------|----------|----------|----------|
| • Significance | 1 | 2 | 3 | 4 | 5 |
| Comments: | | | | | |
| • Grounding in theory or context | 1 | 2 | 3 | 4 | 5 |
| Comments: | | | | | |
| • Analytic procedures | 1 | 2 | 3 | 4 | 5 |
| Comments: | | | | | |
| • Internal logic | 1 | 2 | 3 | 4 | 5 |
| Comments: | | | | | |
| • Compositional style | 1 | 2 | 3 | 4 | 5 |
| Comments: | | | | | |
| • Implications for practice and policy | 1 | 2 | 3 | 4 | 5 |
| Comments: | | | | | |
| • Recommended revision (if any) | 1 | 2 | 3 | 4 | 5 |
| Comments: | | | | | |

Comments to the Author (will be sent to the author):

- **Significance**
- **Grounding in theory or context**
- **Analytic procedures**
- **Internal logic**
- **Compositional style**
- **Implications for practice and policy**
- **Recommended revision (if any)**

APPENDIX H: CODING FOR GROUPS AND JOURNALS

Coding for Journals:

1. English Education
2. Science Education
3. Educational Horizons
4. Educational Forum
5. Phi Delta Kappan
6. Educational Leadership
7. American Educational Research Journal
8. Educational Evaluation and Policy Analysis
9. Educational Researcher
10. Educational Theory
11. Structural Equation Modeling
12. Educational and Psychological Measurement
13. Harvard Educational Review
14. Teacher's College Record
15. Peabody Journal of Education
16. Thresholds in Education

Journal Categories

1. Discipline Journals
2. Association Journals
3. Evaluation Journals
4. Qualitative Journals
5. Quantitative Journals
6. University Journals

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