



A FUNCTIONAL ANALYSIS OF ENGLISH HUMANITIES AND BIOCHEMISTRY WRITING WITH RESPECT TO TEACHING UNIVERSITY COMPOSITION

Josh IDDINGS*

Abstract: This paper uses Systemic Functional Linguistics to examine how writing differs in both English departments and Biochemistry departments in realization at the lexico-grammatical level; and thus, how the differing writing modes are not merely realizations of differences at the lexical level, but the grammar of the texts is affected by the different world perspectives reflected by each discipline. By analyzing the lexico-grammatical realizations in texts produced by professionals in both the English and Biochemistry disciplines, through analyzing basic writing handbooks which are required reading for many introductory writing students, and through analysis of a survey given to full-time university composition professors. This study examines not only how the two disciplines write differently, but more importantly, the implications of current strategies of teaching basic writing composition for academic purposes.

Keywords: composition, Systemic Functional Linguistics, lexico-grammar, discourse analysis, writing

Özet: Bu çalışmada, İngilizce ve Biyokimya bölümleri arasında, sözcük-dilbilgisinin uygulanması açısından yazmada ne denli farklılıklar olduğunu belirlemek için dizgesel işlevsel dilbilim kullanılmıştır. Yazımda farklılıklar kelime seviyesinde ortaya çıkmamakta, ancak bu iki ayrı disiplinin değişik bakış açılarının oluşturduğu farklı dünya görüşleri dilbilgisi seviyesinde etkili olmaktadır. İngilizce ve Biyokimya alanlarında çalışanların yazdığı metinlerdeki kelime-dilbilgisi kullanımı analiz edilmiştir. Bu analiz, ilgili bölümlerde birçok öğrencinin temel seviye yazı derslerinde okuduğu kitaplar incelenerek ve üniversitede tam zamanlı yazma becerisi dersi veren öğretim görevlilerine anket uygulanarak yapılmıştır. Bu çalışma, sadece iki farklı bölümde yazmanın nasıl farklılık gösterdiğini belirtmekle kalmayıp daha da önemlisi, temel seviyede akademik amaçlı kompozisyon yazmaya dair günümüz öğretim stratejileriyle ilgili bulguları da incelemektedir.

Anahtar sözcükler: kompozisyon, dizgesel işlevsel dilbilim, sözcük-dilbilgisi, söylem çözümü, yazma

1. INTRODUCTION

Systemic Functional Linguistics (SFL), or lexico-grammar, has been applied to a diverse range and types of texts. It is a tool to analyze texts in order for linguists and composition instructors to teach with a strong foundation to support their teaching pedagogy. Originally proposed by Halliday (2004), SFL theory has been used in Discourse Analysis, Applied Linguistics, Sociolinguistics, Composition and Rhetoric, Contrastive Analysis, as well as many other disciplines. The following literature review shows some of the ways in which SFL theory has been applied to texts, each relating to explorations of lexico-grammar in this paper.

Tucker (1996) discusses how lexis-oriented and grammar-oriented approaches to grammar differ. Some grammarians (Tucker noting Sinclair) used to construct English grammars from dictionaries, judging the grammatical creative potential of words through the dictionary

* Purdue University, USA, iddings@purdue.edu

definition of what the word should mean. Therefore, it would be difficult to make the distinction between different meanings of a word and fully see the creative potential of the word in grammar. According to Tucker, the SFL model puts lexicon and syntax on the same level, so that both the words and the syntax represent their own meanings, but at the same time. Neither is distinct in nature from the other. If grammar changes then lexis changes and vice versa. Tucker discusses the idea that there are interdependencies across metafunctions. Therefore, a systemic choice in one metafunction not only affects that metafunction, but the other two metafunctions are changed as well. The article progresses with a functional analysis of the phrase “I haven’t the faintest idea,” discussing the nature of “have” as a process, “not” as a polar element, and the entire phrase acting like the process of “not knowing.” Sometimes choices at certain places in the system cause the choice to be reentered into another system. A true linguistic model will allow for transformation of that system as long as the language continues to transform as well. These patterned differences affect the ways in which lexico-grammatical patterns are realized and utilized in writing as well.

Gregory (1987) discusses the theoretical framework of the metafunctions and their use within SFL. Gregory tracks the development of the use of the word function throughout the history of linguistics, citing Malinowski, Firth, Pike and Pike, Martinet, and Martin as linguists who have used the term. Both the Hallidayan mode of the use of functions and Fawcett’s use of the term are contrasted, Halliday seeing functions as different ways to mean (p. 97) and Fawcett rooting his theory in a more Chomskyan manner, arguing “systems are located in the semantics and realized through syntax, items and intonation” (p. 99). Gregory concludes that, although there are different ways to use the term function, a functional approach to grammar is useful and that linguists should continue to “see what they [functional approaches] can do for us” (p. 104).

Ellis (1987) approaches functional grammar by taking an in depth examination of two metafunctions: the Logical (part of the Ideational metafunction containing the Experiential metafunction) and the Textual metafunction. Ellis discusses the Logical function because, as he says, it has been discussed less than the others. Once the Logical function is established and explained, Ellis continues by discussing the ways in which the Logical and the Textual metafunctions interact with one another. The article states that,

the textual function is alone among the functions of systemic grammar in having devoted to it, outside the systemic model, a whole new discipline, a branch of linguistics generally which goes under the names of ‘text grammar’, ‘discourse analysis’, etc.; on the other hand, systemic grammar is alone...in its treatment of the other functions, and in its perspective of integrating the textual with them...the textual function is an enabling function in relation to the other functions, which are directly extra-linguistic...function[s] (p. 115).

This explains the importance of the Textual metafunction within a functional analysis and its interaction with the other metafunctions, in this case the Logical, and shows the importance of the Textual functions’ relationship to the Experiential metafunction as well. Both of these metafunctions are explored within this article.

Fries (1995) explores the SFL model of the Textual metafunction and the ways in which Themes develop within texts. He discusses different interpretations of the function of Theme from Halliday, which is the “point of departure of the message,” the “peg on which the message is hung”, or “what the message is about” (Halliday, 1967, p. 212; 1985, p. 28; 1970, p.161). Four important hypotheses of Thematic development are given within this article:

- (i) different patterns of Thematic progression correlate with different genres, i.e. patterns of thematic progression do not occur randomly but are sensitive to genre; and
- (ii) the experiential content of Themes correlates with what is perceived to be the method of development of a text or text segment. (Fries, 1981)
- (iii) the experiential content of Themes correlates with different genres, and
- (iv) the experiential content of Themes of a text correlates with different generic elements of structure within a text (Fries, 1995, p. 319).

Therefore, both the Textual and Experiential metafunctions share interconnected meaning in their lexico-grammatical interactions and the Thematic development of a text is directly related to the Experiential world perspective¹ of the Genre (context of culture) in which the author writes.

Ventola (1995) argues for a linguistic backbone for the many rhetorical strategies offered by composition instructors. He discusses writing manuals which “give advice, but hardly offer means to realize the advice linguistically, or if they do it, they do it in simplistic grammatical terms” (p. 110). Furthermore, he points out that, by buying these handbooks for writing, “his or her wallet may be lighter, but I wonder whether their academic texts have greatly improved linguistically by reading these manuals” (p. 110). It is the linguist’s job, and thus the composition instructor’s job, to teach textuality and intertextuality: textuality through discourse and register and intertextuality through generic patterns, ideologies and giving points of view. All of these points are important and applicable in Ventola (1995) for non-native writers, but can also be utilized for instructors who teach native speakers and want to do so through concrete discourse strategies, rather than clause-level grammatical construction.

Bloor (1996) discusses “Academic Writing in Computer Science” and compares “three distinct genres (or emerging genres) of student writing...: first year reports, final-year project reports and student newsgroups” (p. 59). She examines each genre to find the “discourse context influences” and how these influences determine the types of meaning in each (p. 59). As an example of this influence, online communication amongst computer scientists is discussed with respect to both popular opinion of the writers being shy or introverted and the actual discourse need for short and quick online correspondence rather than face-to-face interaction. The discourse situation, due to the “need to cite formal programming data in the course of the running text,” is determined to be more efficient when constructed online rather than face-to-face. This being the case, the text of such correspondence directly influences and is directly influenced by the lexico-grammatical realization patterns of the text. Therefore, there is nothing haphazard in this way to

¹ By using the term “world perspective,” this is not meant to suggest that those working in different disciplines literally think differently or see the world differently than those studying in other disciplines. By having different world perspectives, those in different disciplines express a different focus when producing texts within their field.

correspond. It may seem odd to some readers, but the lexico-grammatical pattern is quite efficient for the discourse situation.

Connor and Mayberry (1996) further explore the notion of valuing the linguistic study of “discipline-specific academic writing” (p. 231). They examine first language influences on Finnish students writing for English academic purposes. Connor and Mayberry argue that “learning to write about the topic on which the student is focusing... Learning to write in a genre is a dynamic process” (p. 249). The authors suggest that students should be encouraged to move beyond their desire for clause-level editing of their texts. In addition, students should learn to interact in peer review processes in such a way as to “negotiate meaning with the responder” (p. 249). Again, the importance of this article is the suggestion that good academic writing works to write discipline-specific texts which move beyond clause-level phenomenon, with instructors teaching Generic discourse patterns as well.

Finally, Martin (1991) discusses the role of nominalization in science and humanities texts from an SFL perspective. Martin draws from the context of Australian students who change classes during the day from one discipline to another (p. 307). By analyzing two science texts and two history texts, the article shows that “In science, nominalization is strongly associated with definitions; its function is to accumulate meanings so that a technical term can be defined” (p. 333). Therefore, nominalization is not merely a wordy expression, as some instructors would maintain, but a strategic and useful structure for defining and describing within scientific texts.

2. PURPOSE OF STUDY

The purpose of this article is to explore the ways in which functional grammar, specifically Systemic Functional Linguistics (SFL), can inform and describe the ways in which writing is taught in typical writing composition courses in university English departments. There have been many misconceptions pertaining to the differences in writing Genres and how to teach those differences, if they are taught at all, to introductory composition students. Oftentimes, composition instructors approach the teaching of these courses as if teaching English Humanities’ writing strategies in itself will cause students to write effectively throughout academia. In other words, if students can succeed in their writing composition courses, typically at the freshman level, writing in their own discipline later in their career will fall into place or just happen. This study uses a contrastive grammatical analysis of an English Humanities and a Biochemistry text, with the aid of writing handbooks and surveys of English composition instructors, to explore some myths surrounding the differences in writing in each discipline and the implications of not taking a lexico-grammatical approach to teaching writing courses. The study attempts to show how the lexico-grammar realization patterns of each discipline are a direct reflection of the world perspectives of the discipline.

Since the lexico-grammatical patterns of any discipline reflect the specific outlook and philosophy of each academic discipline, one would expect each discipline’s lexico-grammatical realization patterns to differ. However, in the typical university, composition courses are housed within and taught by instructors trained in English composition and literature. Oftentimes these instructors are only trained in teaching in the English Humanities discipline, and thus this study seeks to analyze how the differences in each discipline are viewed by and taught by writing

instructors. In other words, this article attempts to answer the question of whether or not students are as prepared for success as instructors would like once they exit the university English department and attempt to write within their own discipline?

3. ENGLISH HUMANITIES AND BIOCHEMISTRY

For this study, six texts were chosen (approximately 1,000 clauses): three from both the English Humanities and the Biochemistry disciplines. Each text came from a peer-reviewed academic journal. Frequency analysis was performed on each text for the purpose of discovering the Thematic and Experiential characteristics of the texts. Specifically, each text was analyzed for lexical content, nominalizations, nominal groups containing rank-shifted or embedded clauses, and passivization. Two of these texts were chosen for deeper analysis as they represented the general patterns exemplified by the entire body of original texts. The texts are of the written mode, and are not meant to be interactive with the reader.

The Biochemistry text is entitled “Oxygen Tension Regulates Mitochondrial DNA-encoded Complex I Gene Expression,” written by Jose I. Piruat and Jose Lopez-Barneo. The article concerns how oxygen in a cell is mainly consumed by mitochondrial activity. The authors explore how the mitochondrial genome is influenced by oxygen tension. They specifically find that “hypoxia produced a specific down-regulation of the transcripts encoding mitochondrial complex I NADH dehydrogenase (ND) subunits” (Piruat and Lopez-Barneo, 2005, p. 1). The entire Biochemistry text was comprised of 244 clauses.

The English Humanities text is entitled “The Great American Novel,” written by Herbert R. Brown. This text concerns the original search for a “great American novel” which was supposed to be different from the novels being written in Great Britain. At the time when novels began to be written in the United States, authors and their products were still being compared to those of England. Therefore, the United States was looking for a definitive work of its own. The entire English Humanities text contained 243 clauses.

4. SURVEY OF ENGLISH PROFESSORS AT MARSHALL UNIVERSITY

In order to identify characteristics of writing valued by English professors teaching introductory composition, a survey was given. This survey allowed the ability to not only make assumptions about grammatical issues, but also aided in the analysis of specific attitudes toward writing outside the English Humanities field. Approximately 40 professors were given the survey with 6 completing the survey. The survey was anonymous since the researcher was familiar with most professors in the department. In addition, the examples were taken from handbooks, textbooks, or adapted from these sources.

The professors chosen to take this survey were all full-time faculty, all of whom must teach English composition courses with mostly traditional first year, freshman students. Each professor was given an identical survey which contained an anonymous consent sheet as a cover along with contact information for the researcher. The survey contained a series of sample sentences for instructors to analyze with most examples coming from writing handbooks in which some versions were suggested over others. In the first eight questions, the instructors were given two

versions of the same sentence. They were asked to choose the sentence which they preferred as being better. In addition to choosing the better sentence, they were asked to choose a reason why they chose one sentence over the other. They were given a list of five choices from which they could select any combination of reasons for their choice. They could also choose an “other” category in which they could briefly explain their choice. It is important to note that the sentence variations were asking the instructors to make a choice between Thematic elements, not Experiential. Example 1 was the first question asked of the instructors.

1. ____ Version 1: There is evidence that the use of pay as an incentive can be a contributing or causal factor in improvement of the quality of work.

____ Version 2: Incentive pay improves work quality.

____ wordy

____ clarity

____ be-verb/verb weakness

____ distractive language

____ passive voice

____ other (BRIEFLY explain) _____

In the next set of questions, nine through eleven, each instructor was given sample sentences which they were to imagine they received from composition students. With this in mind, they were asked to make suggested revisions for the sentences which they would typically give to students in their basic composition courses. Example 2 from the survey is question nine.

2. It is true that exercising a high degree of quality control in the manufacture of our products will be an incentive for increasing our market share.

In question twelve, each instructor was given a sample paragraph which they were to imagine was given to them by a composition student. They were to suggest revision strategies for the paragraph. The paragraph was purposely ridden with both traditional grammar errors, like subject/verb agreement errors, as well as variations in the ways in which both the Textual and Experiential metafunctions were realized in the text. The purpose of this paragraph analysis was to see what errors/revisions instructors would suggest. Would they suggest correction of basic traditional grammatical errors, or would they search for errors beyond clause-level phenomena and Register/Genre considerations? In other words, would they examine their student’s paragraph for discrepancies/errors in the way in which the Textual and Experiential metafunctions were realized in the text?

The remaining questions were designed to explore which types of grammatical issues related to the Textual and Experiential metafunctions were discussed in the composition classroom as well as how important these issues were to the instructors. Also, each instructor was provided with a set of questions in which they analyze as to how effective basic composition courses were in preparing students to be successful in all types of academic writing. Example 3 below, number 14 in the survey, asks the instructor to rank how well students are prepared for several other fields in which writing plays a significant part of the students’ development.

3. On a scale of 1 to 5, (1, being “lowest” and 5, being “highest”) rank how well you think Writing 101 classes help prepare students to write in the:

English field?	1	2	3	4	5	Don't Know
Social Sciences field?	1	2	3	4	5	Don't Know
Chemistry Field?	1	2	3	4	5	Don't Know
Education Field?	1	2	3	4	5	Don't Know

In addition to the above questions, instructors were asked to give percentages of specific types of constructions which they encouraged or discouraged in their classroom: active vs. passive verbs constructions, be-verbs, nominalized vs. non-nominalized constructions, and ‘it-that’ and non-‘it-that’ constructions. Example 4, question 18 in the survey, asks the professors to address one of these grammatical issues.

4. What percentage of verbs in a piece of “good” writing do you think should be active verb forms vs. passive verb forms?

(Example: Active=I hit the ball, Passive=The ball was hit by me.)

Active		Passive
100%	vs.	0%
90%	vs.	10%
80%	vs.	20%
70%	vs.	30%
60%	vs.	40%
50%	vs.	50%

The final question in the survey, number 25, gave each instructors the opportunity to address any other concerns and/or problems with basic composition writing that they thought were particularly important to address.

5. THE WRITING HANDBOOKS

Because writing handbooks reveal attitudes toward writing and many of the perceived rules of teaching writing development, two handbooks were chosen for analysis within this article. Each text was chosen as examples of characteristics contained in a total group of four handbooks originally examined. One of the texts was entitled *The Brief Penguin Handbook*. This text was chosen because it was written by Lester Faigley, one of the most famous and respected composition/rhetoric scholars. In addition, this text contained many examples of attitudes toward the same Thematic and Experiential considerations examined in the English Humanities and Biochemistry texts. In addition, since it was chosen by this university during the time of my studies at Marshall, it should represent a general example of the attitudes and perceived writing strategies of the department, considering the department approved of its adoption for all composition courses. This text was added to the list of required texts for all composition courses during the 2006-2007 academic term.

The other handbook analyzed in this study was entitled *Easy Access*, written by Michael L. Keene and Katherine H. Adams. This text represents another example of the types of handbooks adopted by many university English departments. It contains many interesting discussions of development of texts and ways in which students should and should not compose texts. It is important to note that neither Keene nor Faigley necessarily specifically use functional terms to describe their rules for writing. They typically use traditional grammar rules which are discussed in this study in functional terms.

6. ANALYSIS

In order to analyze the two texts, each text was divided into clause boundaries. After this, each clause was entered into Microsoft Excel and clause numbers were labeled accordingly. One Excel sheet was used for each analysis: both Thematic analyses and both Experiential analyses.

6.1 Analysis of the Textual Metafunction

6.1.1 Generic Thematic Choice

6.1.1.1 Realization of Textual Theme

As Figure 6.1 indicates, both texts were realized by 26% Textual Themes.

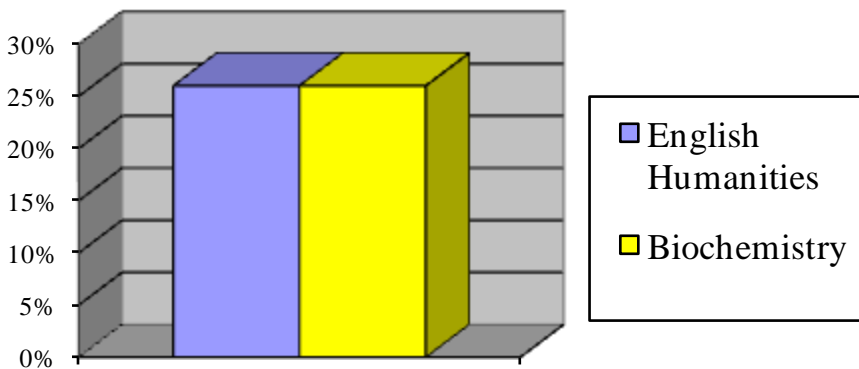


Figure 6.1. Textual Themes

6.1.1.2 Realization of Interpersonal Theme

As Figure 6.2 indicates, both texts were realized by a number of Interpersonal Themes. The English Humanities text contained 7% Interpersonal Themes and the Biochemistry text had 1%.

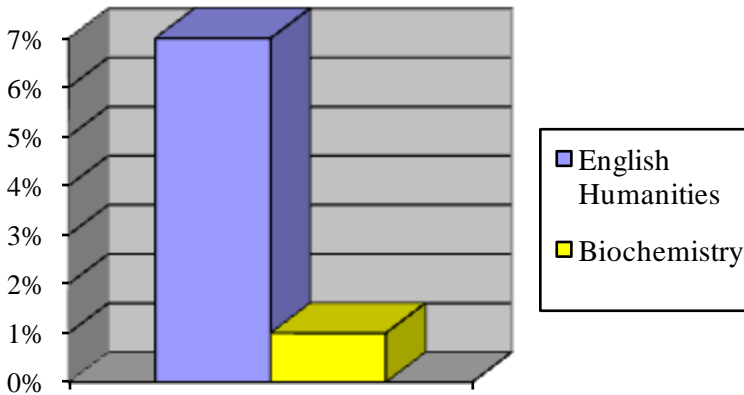


Figure 6.2. Interpersonal Themes

6.1.1.3 Realization of Marked and Unmarked Topical Themes

As Figure 6.3 shows, the English Humanities text had 6% marked Topical Themes; the other 94% of the clauses had unmarked Topical Themes. The Biochemistry text contained 21% marked Topical themes, most of which occurred in the introduction. Thus, the Biochemistry text was represented by 79% unmarked Topical Themes.

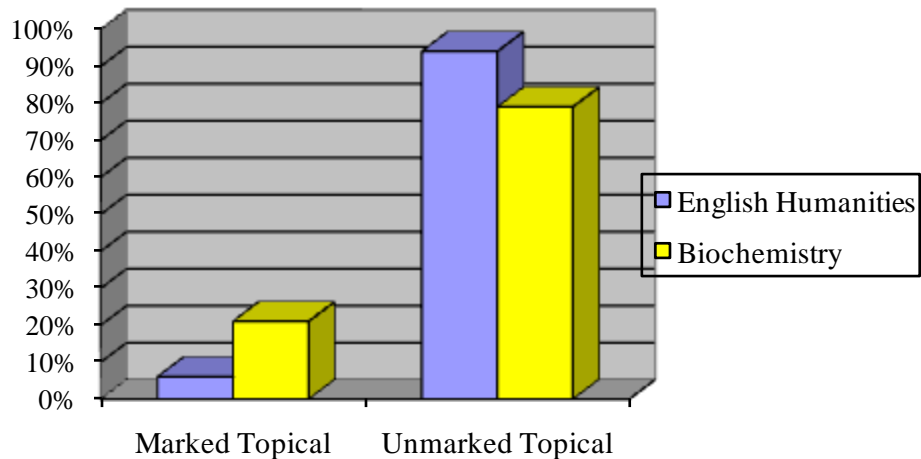


Figure 6.3. Markedness in Topical Themes

6.2.1 Nominal Groups with Rank-Shift or Embedded Clause as Thematic Choice

6.2.1.1 Academic Articles

As Figure 6.4 indicates, 13% of the 243 clauses in the Biochemistry article were realized with a nominal group in the Theme position. This figure also shows that 17% of the 243 clauses in the English Humanities article were realized with a nominal group in the Theme position.

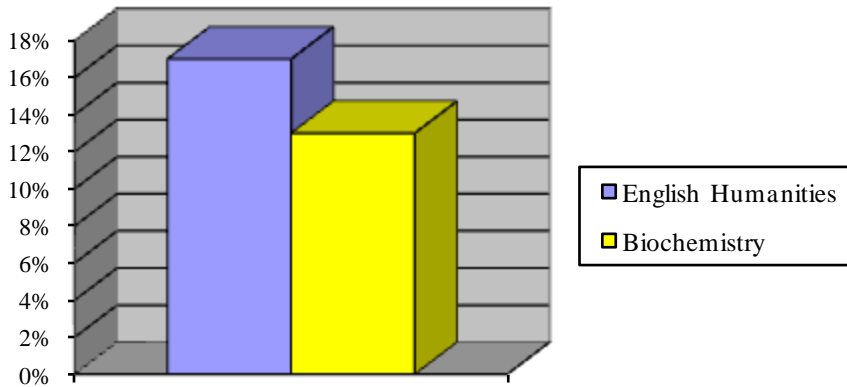


Figure 6.4. Nominal Group as Theme in the English Humanities and Biochemistry Articles.

6.1.1.2 Survey of English Professors

Survey questions 6 and 10 addressed the use of nominal groups within academic writing. Number 6 gave two versions of a clause, one with a nominalization and one with only a nominal group. The question was as follows:

1. ____Version 1: Stimulation of the production of serotonin by a glass of milk or a carbohydrate snack may be the cause of sleepiness.

____Version 2: A glass of milk or a carbohydrate snack stimulates the production of serotonin and may cause sleepiness.

- ____ wordy
- ____ clarity
- ____ be-verb/verb weakness
- ____ distractive language
- ____ passive voice
- ____ other (BRIEFLY explain) _____

100% of the instructors chose the nominal group version over the nominalized version. Their reasons for this choice were “wordy,” “clarity,” “be-verb/verb weakness” and “passive voice.”

Question 10 was a sample sentence in which instructors were asked to imagine how they would suggest revision if their student were to submit the example sentence in their course. The question was as follows:

2. The leaf of the tree was green.

Five of the instructors chose to answer this question. One instructor suggested changing the “of” to “on.” Three instructors chose to revise the nominal group suggestion, “The tree leaves were green,” and “The tree’s leaf was green.” In addition, two instructors said, “Avoid wordiness and the passive voice,” and “Prepositions create wordiness.”

6.1.1.3 Writing Handbooks

Within the two writing handbooks, there were no specific revision suggestions pertaining to correction of nominal groups. In fact, one revision suggests changing a nominalization to a nominal group. The original clause complex read:

3. Mayoral approval of the recommended zoning change for a strip mall on Walnut Street will negatively impact the traffic and noise levels of the Walnut Street residential environment. (Faigley, 2006, p. 382)

The handbook recommends the following revision because it contains “people”:

4. If the *mayor* approves the recommended zoning change to allow a strip mall on Walnut Street, *people who live on the street* will have to endure much more noise and traffic. (Faigley, 2006, p. 382)

The nominal group, “people who live on the street,” is the recommended revision.

Another example of the acceptance of nominal groups is found in the suggested revision of a passive clause. The passive clause read,

5. The pear tree in the front yard was demolished by the unexpected storm.

The suggested revision was,

6. The unexpected storm demolished the pear tree in the front yard.

The handbook only suggested revision of the verbal voice, not the noun group, “the pear tree in the front yard” (Faigley, 2006, p. 382).

6.2.2 Nominalization as Thematic Choice

6.2.2.1 Academic Articles

As Figure 6.5 indicates, 22% of the 243 clauses in the Biochemistry article were realized with a nominalized Process in the Theme position. This figure also shows that 6% of the 243 clauses in the English Humanities article were realized with a nominalized Process in the Theme position.

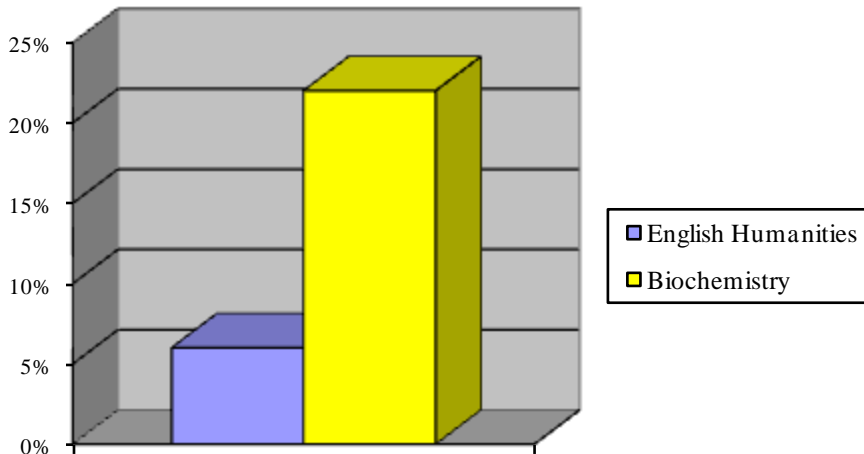


Figure 6.5. Nominalized Process as Theme in the English Humanities and Biochemistry Articles.

6.2.2.2 Survey of English Professors

Survey Questions 1, 2, 5, 6, 8, and 20 specifically addressed the use of nominalizations within academic writing. Number 1 gave two versions of a clause, version one contained an Existential clause, while version two contained a nominalization, but was active. The question was as follows:

7. ____Version 1: There is evidence that the use of pay as an incentive can be a contributing or causal factor in improvement of the quality of work.

____Version 2: Incentive pay improves work quality.

____ wordy

____ clarity

____ be-verb/verb weakness

____ distractive language

____ passive voice

____ other (BRIEFLY explain) _____

All instructors answered this question with five (83%) citing version two as better than version one. Those who chose version two gave reasons such as: “wordy,” “clarity,” “be-verb/verb weakness,” and “passive voice.” In addition, one instructor said that the second version should be further revised because it “leaves out existence of evidence...” The one instructor who chose version 1 said that version 2 was “too short and doesn’t say anything. It makes me say, ‘yeah, so what?’”

Question 2 gave two versions of a clause. Version one contained a nominalization and an active verb, while in version 2 the Theme was a Marked Topical Theme, “In my paper” and the Subject was “I.” The question was as follows:

8. ____Version 1: The benefits of placebos (pills with no physical effect) include improvements and cures.

____Version 2: In my paper, I intend to show that the benefits of placebos (pills with no physical effect) include improvements and cures.

____ wordy

____ clarity

____ be-verb/verb weakness

____ distractive language

____ passive voice

____ other (BRIEFLY explain) _____

All six instructors answered this question with four citing version one as the best choice. One instructor cited both as, “ok.” The four who chose version one cited version one over version two because of “wordy” and “distractive language.” One other instructor said version one was the best choice, citing that “Writing about writing and making ‘I’ the subject offends my academic sensibilities.”

Question 5 gave two versions of a clause. Version one had “physicians” as its Theme, contained a Verbal Process and was active. Version two had a nominalized Theme and was passive. The question was as follows:

9. ____Version 1: Physicians suggest that parents watch children carefully during the first six months for evidence of seizures.

____Version 2: One suggestion offered by physicians is that there is a need to be especially observant of a child’s behavior during the first six months in order to notice any evidence of seizures.

____ wordy

____ clarity

____ be-verb/verb weakness

____ distractive language

____ passive voice

____ other (BRIEFLY explain) _____

All six instructors answered this question, all citing version one as their preferred answer. The reasons cited for rejecting version two were: “wordy,” “clarity,” “be-verb/verb weakness,” “distractive language,” and “passive voice.”

Question 6 gave two versions of a clause. Version one contained a nominalization and a “be-verb.” Version two had a nominal group and was active. The question was as follows:

10. ____Version 1: Stimulation of the production of serotonin by a glass of milk or a carbohydrate snack may be the cause of sleepiness.

_____ Version 2: A glass of milk or a carbohydrate snack stimulates the production of serotonin and may cause sleepiness.

_____ wordy

_____ clarity

_____ be-verb/verb weakness

_____ distractive language

_____ passive voice

_____ other (BRIEFLY explain) _____

All six instructors answered this question, all citing version two as their preferred answer. The reasons cited for rejecting version one were: “wordy,” “clarity,” “be-verb/verb weakness,” and “passive voice.”

Question 8 gave two versions of a clause. Version one had “campers,” people, as Theme. Version two had a nominalized Theme and a be-verb. The question was as follows:

11. _____ Version 1: Campers can hear the exhilarating sound of the liger’s roar from miles away.

_____ Version 2: The exhilarating sound of the liger’s roar is heard from miles away.

_____ wordy

_____ clarity

_____ be-verb/verb weakness

_____ distractive language

_____ passive voice

_____ other (BRIEFLY explain) _____

The answers to this question were more mixed than the others. Three instructors said version one was better, two instructors said version two was better, and one said both. The instructors who preferred version one cited the following reasons: “passive voice” and “be-verb/verb weakness” and one said, “is heard by whom? I hate vague statements.” The two instructors who said version two was better cited the following reasons: “subject is stronger” and “clarity.” The one instructor who said both answers were possible underlined the Themes of both clauses and commented, “Both are ok-What do you want to stress?”

Question 20 was as follows:

12. What percentage of sentence subjects in a piece of “good” writing do you think should be nominalized vs. non-nominalized?

(Example: nominalized=The failure of the experiment was unfortunate, non-nominalized=The experiment failed, unfortunately.)

Nominalized		Non-nominalized
100%	vs.	0%
90%	vs.	10%
80%	vs.	20%
70%	vs.	30%
60%	vs.	40%
50%	vs.	50%

Three instructors chose to answer this question by giving a specific percentage; they answered, “50% or fewer vs. 50%,” “30% vs. 70%,” and “70% vs. 30%.” Two instructors answered with a remark saying, “Percent depends on the field. In science classes, writing is passive. I can’t answer these, sorry,” “This is a tone question. It depends on the situation.” One instructor chose not to answer at all.

6.2.2.3 Writing Handbooks

Both handbooks strongly discourage the use of nominalizations within academic writing. Chapter 26 of Faigley (2006) discusses different ways in which students can “write with power” (p. 379). The handbook suggests that students “express actions as verbs” (Faigley, 2006, p. 382). As a way to write in this manner, the sample revised clauses unanimously remove nominalized forms. For example, the following two sample clauses were revised with nominalizations and nouns being removed.

13. Original: The arson unit conducted an investigation of the mysterious fire.
Revision: The arson unit investigated the mysterious fire (Faigley, 2006, p. 382).

and

14. Original: The committee had a debate over how best to spend the surplus funds.
Revision: The committee debated how best to spend the surplus funds. (Faigley, 2006, p. 382)

In addition, Example 13 also suggests removing the nominalization in favor of using a nominal group. Another example suggests the same revision of nominalized verbs.

15. Original: The use of MIDI keyboard for playing the song will facilitate capturing it in digital form on our laptop for the subsequent purpose of uploading it to our Web site.
Revision: By playing the song on a MIDI keyboard, we can record the digitized sound on our laptop and then upload it to our Web site.

This revision is suggested because it includes “we,” people, as the Theme, rather than a nominalization as Theme.

Keene and Adams (2006) also suggests revision of nominalized verbal Processes. In the section entitled, “Sentence Revising” (a nominalized title), one revision rule states, “eliminate needless nominalizations” (p. 462). Two sample revisions were as follows:

16. Original: The two leaders held a discussion concerning several peace alternatives.

Revision: The two leaders discussed several peace alternatives (Keene and Adams, 2006, p. 465).

and

17. Original: The director made a recommendation that the student assistant be rehired.

Revision: The director recommended that the student assistant be rehired (Keene and Adams, 2006, p. 465).

The handbook suggests, “To make your sentences more concise, remove nominalizations—nouns created from verbs—because they can lead to wordiness and a plodding tone” (Keene and Adams, 2006, p. 465).

6.2.3 Passivization

6.2.3.1 Academic Articles

As Figure 6.6 indicates, 46% of the 243 clauses in the Biochemistry article were realized as passives clauses. This figure also shows that 10% of the 243 clauses in the English Humanities article were realized as passive clauses.

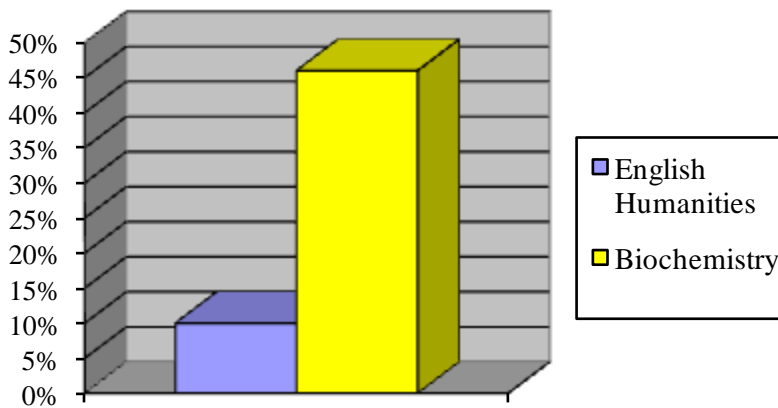


Figure 6.6 Passivization in the English Humanities and Biochemistry Articles.

In addition, as Figure 6.7 below shows, there was a correlation between the percentages of passive structures which occurred with nominalizations. When passives were realized at a higher rate, those clauses also contained a higher number of nominalized Themes. In the Biochemistry text, where 46% of its clauses contained passives, 19% of those also contained nominalized Themes. In the English Humanities text, where 10% of the clauses were passive, there was a 1% occurrence of nominalized Themes in those clauses.

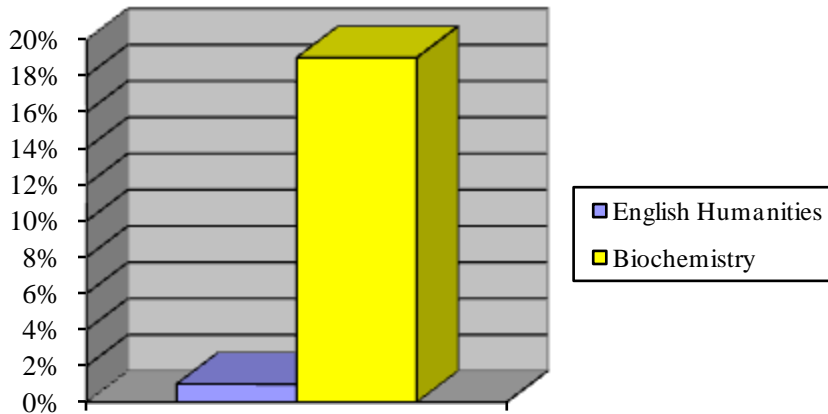


Figure 6.7 Nominalized Themes in Passive Constructions

6.2.3.2 Survey of English Professors

Questions 5, 11, and 18 address the use of passive voice in academic writing. Question 5 is discussed above in Example 9. Question 11 was a sample sentence in which instructors were asked to imagine how they would suggest revision if their student were to submit the example sentence in their course. The question was as follows:

18. If one desires to be a great writer, passive verbs should be avoided.

The revision suggestions were mixed with five instructors suggesting revisions. Four of the instructors revised or suggested that the passive voice not be used saying: “Put the second clause into the active voice,” and another said, “use only the words that matter,” while this instructor underlined “great writer,” “passive verbs,” and “avoided.” Three instructors gave sample revisions: “Avoid passive verbs if you want to be a great writer,” “Great writers avoid passive verbs,” and “Great writing shuns passive verbs.” All of the answers favor the active voice and suggest negative attitudes toward passivization. Question 18 asked,

19. What percentage of verbs in a piece of “good” writing do you think should be active verb forms vs. passive verb forms?
 (Example: Active=I hit the ball, Passive=The ball was hit by me.)

with the following choices:

Active		Passive
100%	vs.	0%
90%	vs.	10%
80%	vs.	20%
70%	vs.	30%
60%	vs.	40%
50%	vs.	50%

Five professors chose to answer this question, some by circling the answer and some by giving a brief statement. One instructor circled “70% vs. 30%.” Another said, “Depends entirely on context and purpose of writing. Passive voice has its uses!” while another said, “% depends on the field. In science classes, writing is passive. I can’t answer these. Sorry.” One instructor circled “70%” but added, “But not in lab reports, for example.” Finally, the last instructor circled two answers: “90% vs. 10%” and “80% vs. 20%,” giving a range of answers and saying, “In this area. Altering sentence structure is important.”

6.2.3.3 Writing Handbooks

Passivization is discussed at length in both handbooks. Both texts favor active voice over passive voice and each has a strong negative opinion of the passivized form. In section 26a of Faigley (2006, p. 380), entitled “Recognize Active and Passive Voice,” using passive voice is compared to children trying to conceal the fact that they broke a cookie jar. Instead of saying, “I knocked over the jar,” the author suggests a child would say, “The jar got broken.” Faigley suggests that “Passives can be as useful for adults as for children to conceal who is responsible for an action.” Therefore, the writing handbook sees using passives as concealing information rather than an aid in Thematic choice. Faigley says, “Most of the time you are not out to conceal but rather to communicate. To write with power, consider different ways of saying the same thing. The extra effort will bring noticeable results” (2006, p. 380). It should be noted that one paragraph above Faigley says, “The passive is created with a form of *be* and the past participle of the main verb” (2006, p. 380), himself using a passive to make this statement. Faigley (2006) does give a small box containing “When you need to use passives.” The text says,

“Whether you are writing for the world of work or the academic world, you will find there are times when passives are required. Passive sentences are used when

- you want to keep the focus on the person or thing being acted on,
- you don’t know the actor, or
- you and your readers know the actor’s identity.” (p. 381)

Again, the attitude is that using passive voice is an exception to a grammar rule and, in fact, this is the first mention of passivization having a use in focusing the text and not merely a form to rely on when the author does not know something or want to conceal something.

In the “Sentence Revising” section of Keene and Adams (2006, p. 462), the first revision rule says, “Prefer active voice sentences.” The text says that in active voiced clauses, “The action is straightforward... from beginning to end” (p. 463). In addition, this handbook claims that “You should avoid passive structures because they make writing wordy and confusing. Active voice produces vigorous and direct statements” (p. 463). Again, the same negative attitude toward passivization is exuded.

6.2.4 Topical Theme Content

The following figures show the patterns of both the Biochemistry (Figure 6.8) and the English Humanities (Figure 6.9) texts. Each figure shows the most significant percentage of patterns of Thematic choice in each text. It should be noted that the cumulative percentages do not add up to 100% for two reasons: 1) only the most significant Thematic choices are shown in the figure, and 2) some Thematic choices are realized by lexical content in more than one of the lexical categories.

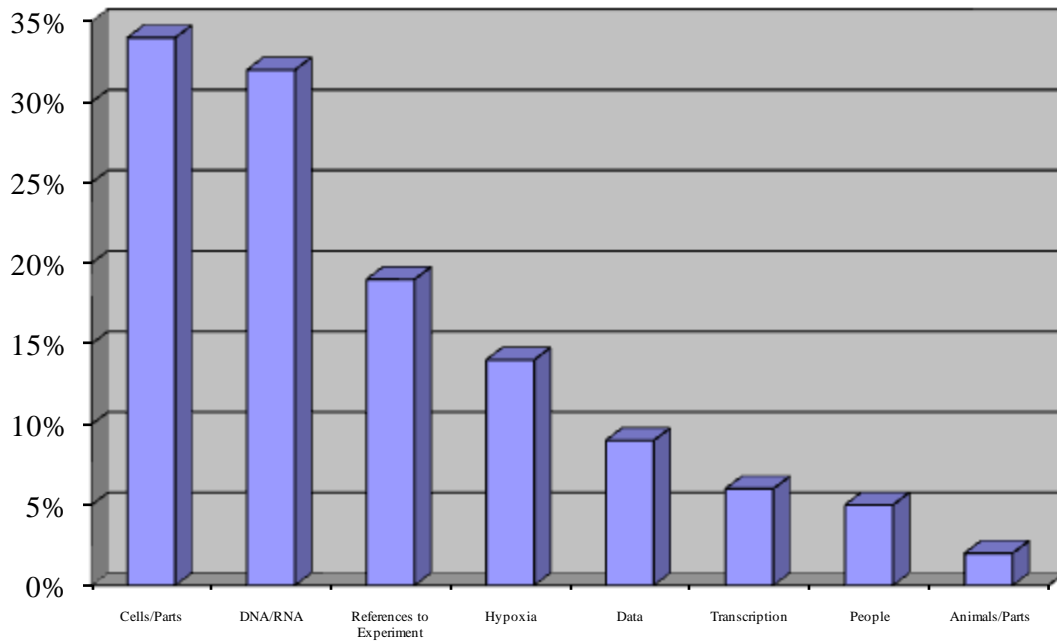


Figure 6.8 Highest Theme Content Categories in Biochemistry Article

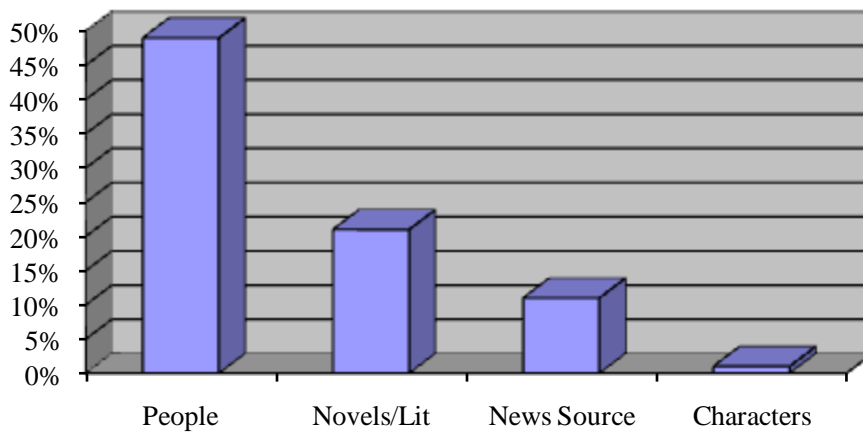


Figure 6.9 Highest Theme Content Categories in English Humanities Article

The English Humanities text was realized by four main lexical categories (see Figure 6.9 above), while the Biochemistry text was realized by nine main lexical categories (see Figure 6.8 above). Approximately 50% of all Themes chosen in the English Humanities text contained references to people: most often either characters in the novels discussed or critics of the literature. There were 5% occurrences of people chosen as Theme within the Biochemistry text; while nearly all other clauses contained objects or objectified processes in the Theme position: Processes, Chemicals, Experiments, Animals, DNA/RNA, Data, Cells/Cell Parts, Hypoxia, Transcription, etc.

The other Thematic choices within the English Humanities articles constituted a choice of text types as the point of departure: either the Theme was a novel, fiction, or other literary pieces, 21%, or a newspaper or news source, 11%.

6.3 Experiential Metafunction

6.3.1 Process Choice

6.3.1.1 Academic Articles

As Figure 6.10 indicates, 88% of the 243 clauses in the Biochemistry article were realized as either Material or Relational (both Attributive and Identifying) clauses. Only 11% of the Biochemistry clauses were realized as Mental, Verbal, Existential, Behavioral, or Causative. Figure 6.11 shows that the English Humanities clause Process choices were more diverse. Material and Relational clauses comprised the majority of the choices with Material being 23% and Relational (both Attributive and Identifying) being 38%. This article also contained 26% Mental and Verbal clauses. One other interesting observation is the difference in the types of Relational Processes. The Biochemistry text was realized with 65% Relational Attributive Processes and 35% Relational Identifying Processes. However, The English Humanities' clauses were not as evenly distributed. This article had 81% of its Relational Processes realized as Attributive and 19% as Identifying.

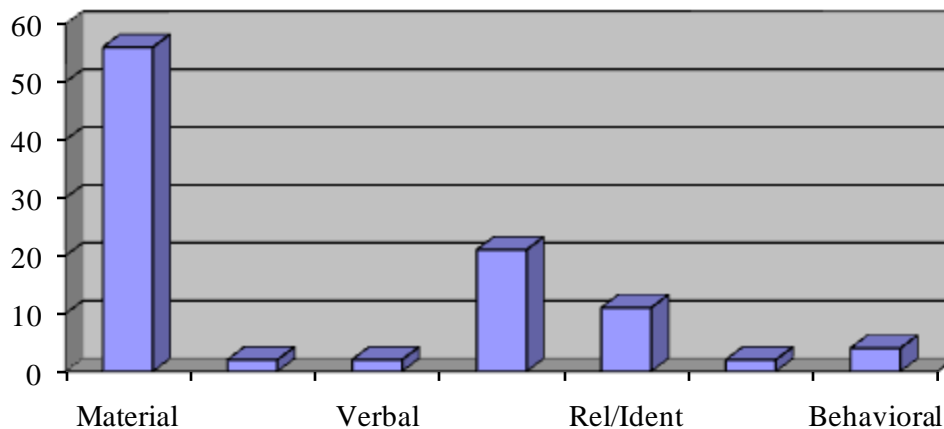


Figure 6.10 Distribution of Process Types in the Biochemistry Article

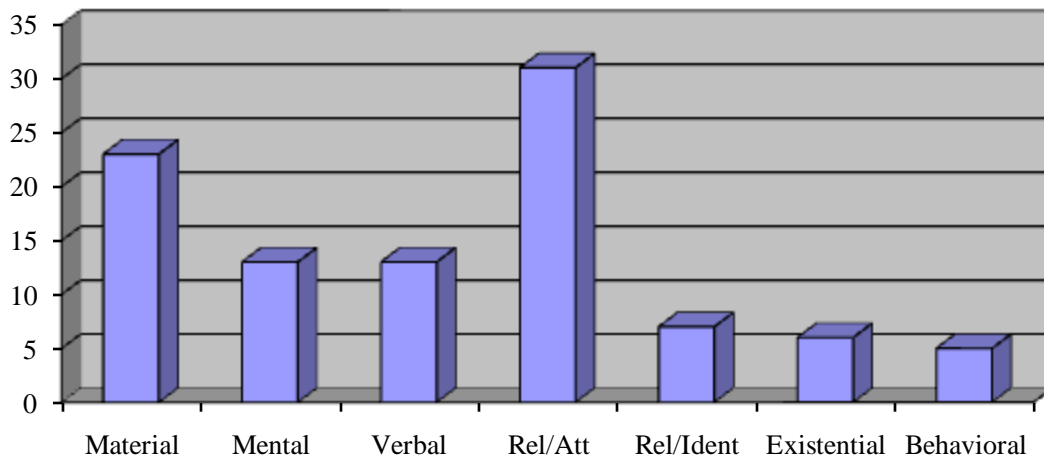


Figure 6.11 Distribution of Process Types in the English Humanities Article

6.3.1.2 Survey of English Professors

Questions 1 and 19 addressed issues of the experience which is conveyed in writing via the Experiential metafunction. In survey question 1, as discussed above, version one contained an Existential clause with an embedded Relational clause. Version 2 was nominalized and active. The question is given above in Example 7. Five of the instructors chose version two. Those who chose version two gave reasons such as: “wordy”, “clarity”, “be-verb/verb weakness” and “passive voice.”

Question 19 addressed the use of Relational clauses as opposed to Material clauses when it asked,

20. What percentage of verbs in a piece of “good” writing do you think should be action verbs vs. BE verbs?

(Example: Action=He murdered the man, BE=She was beautiful)

with the following choices,

Action		BE
100%	vs.	0%
90%	vs.	10%
80%	vs.	20%
70%	vs.	30%
60%	vs.	40%
50%	vs.	50%

Answers to this question were mixed. Five of the instructors chose to answer this question. One instructor circled “70%” as the answer. Another said, “% depends on the field. In science classes, writing is passive. I can’t answer these. Sorry” while another circled “70%” but said the usage was “hard to quantify.” One instructor simply circled “80% vs. 20%” and the final instructor

circled a range, “90% vs. 10%” and “80% vs. 20%,” saying “I don’t make this distinction in verb form (between active/passive and be-verbs). I consider it all passive.”

6.3.1.3 Writing Handbooks

There are many types of verbal processes discussed within the two writing handbooks. Both texts strongly encourage students to use active Material clauses, which they term “action verbs.” Faigley (2006, p. 382) provides readers with an extended paragraph containing mostly Relational and Existential clauses with be-verbs. The author asks where the action words are and says,

No action words here! The paragraph describes a series of actions, yet the only verbs are forms of *be* (*is, was, were*). These sentences are not in the passive voice, but they typify writing that uses *be* verbs when better alternatives are available. Think about what the actions are and choose powerful verbs that express those actions (2006, p. 382).

The text then provides another version of the sample paragraph containing mostly Material clauses. The text favors the use of Material clauses over Relational and Existential clauses within academic writing. Existential clause are considered “wordy expletives” (p. 389).

Keene and Adams (2006) treat the use of Material clauses the same as Faigley (2006). Rule 3 of the “Sentence Revising” rules says, “Eliminate needless forms of *to be* and other weak verbs” (p. 462). The text says,

In first drafts, writers often choose constructions containing weak verbs, especially forms of *be* (*am, is, are, was, were, been, being*). But in a final draft, a succession of sentences with *be* verbs can be vague and monotonous. You can easily eliminate one use of *be* that wastes words and delays the action.

This passage is followed by two revisions of Existential clauses. Again, the attitude toward the use of Relational and Existential clauses is apparent. Material clauses are favored over “wordy” sentences (Keene and Adams, 2006, p. 466). Example 21 is a sample of a revision of one “needlessly wordy” Relational clause.

21. Original: The memory of my days in Austin is something I will treasure for all the rest of my days.

Revision: I will always treasure my days in Austin.

7. SUMMARY AND CONCLUSIONS

7.1 Thematic Considerations

In this article, I have presented an SFL functional analysis of two academic, peer reviewed texts in order to show that there are distinct and purposeful differences between writing in the Biochemistry and English Humanities disciplines. In addition, the survey of English professors

and the writing handbooks have suggested that many inconsistencies still exist with respect to teaching writing in the university. In general, the surveys and handbooks do not support teaching composition outside the world perspective of the typical English department. When professors were asked questions about these issues and when handbooks discussed topics of Textual and Experiential relevance, students continue to get mixed responses on how to effectively compose a piece of text. There are many strong implications in these unfortunate circumstances in the composition classroom. Without a change in the approach to teaching these courses, and as I will argue, without teaching these courses from a functional perspective, students may be misled within their writing courses. In an era within English departments where much emphasis is placed on empowering students to succeed in an oftentimes oppressive world, English departments taking the traditional perspective expressed in the surveys and handbooks could be hindering the development of their students' writing.

One aspect analyzed in the Biochemistry and the English Humanities texts was the types of Themes chosen by the writers: did writers use Textual, Interpersonal, and/or Marked or Unmarked Themes within their texts? Each text used roughly the same amount of Textual Themes to link one clause to the next. This fact suggests that there are really no discipline specific differences between the ways each text used conjunctive/continuative devices to link one clause to the next. However, there was a difference between the ways in which each text used Interpersonal Themes. The English Humanities text used more Interpersonal Themes (7%) than the Biochemistry text which hardly used any of these Themes (1%). This suggests that the English Humanities text was more interactive (seven times more interactive) in nature than the Biochemistry text. This is consistent with the ways in which Biochemistry texts are intended to interact with the reader. Biochemistry writing, since it is a scientific discipline, should not be influenced by the personal views or emotions of the writer or any other observer of the phenomenon which is being discussed within the text. English, as a Humanities discipline, is more open to the use of Interpersonal Themes because the observer can be considered an important aspect of the interpretation of the texts being discussed. This type of personal interaction with a text is unacceptable in scientific disciplines because writers do not want readers to believe that their observations could be hindered or intervened by subjective input. While this may seem to support Faigley's comment on how writing should not conceal information, in science the observer is not considered an important piece of information; therefore, including the observer as a participant in the grammar would be unnecessary. Science desires to give results that are objective in nature and can be observed by anyone, regardless of personality, race, ethnicity, etc., when the phenomenon is observed under similar scientific and environmental conditions. In other words, when the cells in a Biochemistry experiment are placed in the same consistent environment, it is scientifically understood and expected that no matter who the observer is, the cells being observed will react in the same way as the article explained.

Topical Theme realization differed between the two texts as well. The Biochemistry text was realized by a much larger percentage of Marked Topical Themes. In general, almost all of these Marked Topical Themes occurred in the introduction and conclusion of the text as a way to root the information in the clause into a specific timeframe and place: for example, when the writers wanted to show how their experiment was different from previous experiments, they said, "In recent years, ..." The English Humanities text chose almost exclusively Unmarked Topical

Themes, suggesting that this discipline is more Thematically centered on Subjects (generally human ones) who perform some sort of action, observation, etc. than the Biochemistry text.

Another major discrepancy between the Biochemistry and the English Humanities texts is the lexical content of Themes. The lexical content of Themes with the English Humanities text was realized in three larger categories. Nearly half of all Themes lexically contained people in their realization patterns. In addition, works of fiction (literature and novels) and news sources, typically personified ones, made up the bulk of the other Themes chosen in this text. People were rarely ever chosen as Theme in the Biochemistry text. In fact, the majority of lexical content of Themes were realized as DNA/RNA and their parts, cells and their parts, references to the experimental process, chemicals, or processes such as transcription and hypoxia. These realization patterns are far from haphazard. They directly reflect the major concerns and focus of each text within each discipline. English Humanities texts find authors, observers, critics, people, main contributors to the ways in which the world is affected and acted upon. However, Biochemistry is mainly concerned with the ways in which chemicals and environmental factors affect the biological happenings within bodies. Both of these discipline specific perspectives are realized within the lexical content of Themes chosen in each text.

In addition to analyzing the types of Themes in each text, the analysis of both academic texts also took into account the ways in which Themes were realized. Nominal groups with embedded/rank-shifted clauses were analyzed in order to determine whether differences existed in the realization patterns of this form. Statistical analysis showed that there was not a significant difference in the nominal group patterns of each text. However, the English Humanities did contain 4% more occurrences of nominal groups as Theme. Again, when nominal groups were chosen as Theme in the English Humanities text, an embedded or rank shifted clause was typically added to the end of a person as Subject or a personified Subject as further description of the Subject.

While differences in the realization of nominal groups as Theme were not major in the two texts, the Biochemistry text was realized by a much higher percentage of nominalization of verbal processes as Theme than the English Humanities text. This suggests that nominalization plays an important and major role in the ways in which the world perspective of Biochemistry is reflected in the lexico-grammar. Since a major concern of Biochemistry is the ways in which certain processes affect the body, it is only logical that those processes would be realized as the Theme, or main focus, of a large number of clauses. In addition, since nominalizations are literally a way to change a verbal Process into a noun-like phrase, it makes sense that Biochemistry would choose these forms more often as a functional grammatical construction. This construction allows the author to further describe the processes and phenomenon which they are observing. Embedded and rank shifted clauses can then be added to these nominalized forms as a way to further describe and modify noun-like verbal phenomena. This is not possible when only using nominal groups such as those in the English Humanities clauses. Nominalization allows for a unique way to describe processes which otherwise cannot be described in this way in the English language.

Passivization was also a large consideration within the analysis of both the English Humanities and the Biochemistry texts. Statistically, the differences between the realization of passivized

clauses within the two texts were much larger than any other contrastive analysis. Nearly half of all Biochemistry clauses were realized as passive voice, while only 10% of all the English Humanities clauses were passive. This shows that passives play a major role in the ways in which Biochemistry texts are realized. In fact, passivization of Material clauses is not only realized in scientific texts of this nature, but they are imperative. It is commonly known that passivization allows the Subject/Actor to be ellipsed from the clause. In Material clauses, this allows the Goal or Range to be realized as Theme. This is not haphazard or merely a convention of scientific texts, just as not using passivization is not just something that just happens in English Humanities texts. Again, passivization directly reflects the world perspective of the discipline. Biochemistry texts are generally not focused or concerned with people (unless of course people are treated as objects of observation), but these texts are concerned with objects and phenomenon. Passivization allows for these objects and phenomena to be the Thematic, and thus the lexico-grammatical, focus of the clause construction. Active voice does not allow for this, and is therefore not suitable for Biochemistry texts.

In addition to the individual realization patterns of passives and nominalized Themes, there also seemed to be a correlation between these patterns. When articles contained a higher percentage of passives, they also had a higher percentage of nominalized Themes. In fact, the percentage of correlation between the two structures in the Biochemistry article was 19 times that of the English Humanities article. This suggests that this correlation is a major contrastive feature of the two and it is in turn highly functional. It allows both of the functional advantages discussed above to be utilized in coordination with one another, increasing the Registerial functionality of the individual clause, and the article as a whole.

With respect to Thematic choice, the survey of English professors and the writing handbooks of Faigley (2006) and Keene and Adams (2006) most often support Theme choice reflecting the world perspective of the English Humanities text. As the analysis in Chapter 6 showed, English professors almost always suggested revision of nominalizations as they generally considered the construction wordy and unclear. However, nominal groups containing extended modification, which could be considered just as wordy, were most often not a problem to the professors. Passivization was almost unanimously seen as unacceptable in writing, but when it was accepted it was generally due to the fact that professors thought varying sentence structure was important. In addition, one instructor considered both passivization and the use of be-verbs (Relational clauses) as passive. There is an obvious discrepancy in the attitude toward this passive voice. One instructor acknowledged that this voice is important in other disciplines like science; however, most instructors never alluded to this consideration of other disciplines when giving revision strategies in the sample clauses and text given in the early part of the survey. If they are teaching these structures this way in a course, there may be confusion when students translate the teaching into their own discipline after leaving the composition course. English professors seem to most often choose their own discipline's lexico-grammatical patterns of Thematic choice as the acceptable norm and all other variations of lexico-grammar as another or other way to compose texts.

The writing handbooks reflected the very same attitudes toward writing as the English professors with respect to Thematic choice. In fact, when Faigley (2006) discusses the use of passivization, the text compares the use of this voice to the deception a child exudes when they break a jar and

say, “The jar got broken,” rather than, “I knocked over the jar” (Faigley, 2006, p. 380). Faigley continues by implying that passivization is a way to “conceal who is responsible for an action” rather than an effective way to communicate a world perspective (p. 380). While this is one way to use the passive voice, within an academic text from the Biochemistry perspective, this is far from a way to write, which as Faigley says, shouldn’t “conceal but rather to communicate” (p. 380). When Faigley suggests revision of passive clauses, he actually does not just change the verb form. Without admitting it, Faigley actually changes the Thematic focus of the clause, which not only does not reflect the world perspective of texts such as Biochemistry texts, but also takes away the very power of this clause that he claims to be adding. Keene and Adams (2006) treat the Thematic element in the same manner. Therefore, rather than empowering students to be better writers, both the English professors and writing handbooks, could potentially limit the students’ voice and the power they desire to be bestowing upon writers who choose to study and write within disciplines outside English Humanities. In addition, handbooks such as Faigley’s are riddled with passivization and use of be-verbs, which are the very structures they claim are not powerful. In most cases, the majority of students who are forced to take such classes are not English majors, but study disciplines outside the English department.

7.2 Experiential Considerations

The ways in which experiential factors are discussed and realized in the analyzed texts have similar implications as those reflected in the thematic considerations. The choice of Process realized in the Biochemistry and English Humanities texts strongly differed. Nearly all clauses (88%) in the Biochemistry text were realized as Material or Relational clauses. In addition, the Material clauses were most often passive. The English Humanities clauses contained a high number of active Material and Relational clauses, but were also much more diverse. This suggests there is a distinct difference in the ways in which each discipline reflects the world through verbal Processes. The aim of Biochemistry texts seems to be to show how actions or phenomenon occur biologically and how those actions and phenomena relate to other actions and phenomena. Also, it is the aim of Biochemistry to assign attributes to these phenomena (Relational/Attributive) and to show how they relate in part to one another (Relational/Identifying). English Humanities texts seem to be more concerned, again, with how people act within the world. In addition, these texts are concerned with the things humans/personified objects say (Verbal Process) and think (Mental Processes). Biochemistry texts are less concerned with communicating the personal thoughts and feelings of those observing the world, and they personify objects less often. To do so in a Biochemistry text would be ludicrous.²

The surveys and handbooks reflect the same world perspective that the English Humanities text realized with the exception of Relational clauses. The English instructors almost always edited and revised all be-verbs to be what they termed action words. However, SFL distinguishes verbal processes which are Material in nature and those which are active voice. The surveys and handbooks deemed Relational be-verbs as empty verbs. However, these Relational clauses have much functional power when used to relate one thing to another. Material verbs are not able to do this. In addition the surveys and handbooks both treated passive Material clauses as

² One’s personal thoughts/feelings are always expressed in the way one uses language, but each writer/speaker expresses these feelings differently. The Theme of the clause is assigned to the object/element the writer/speaker desires to foreground. The how of the writing changes, not what is being written about.

ineffective. They each said that action verbs should be used; however, passive Material verbs are still action oriented, while they are not active voice. There is a difference that the surveys and handbooks did not seem to consider. Statistical analysis of the English Humanities text, as opposed to the impressions given by the surveys and handbooks, treated Relational clauses as very important in the realization of the world perspective of the discipline.

7.3 Teaching Implications

The implications of the research suggest that there are discrepancies in the way that composition is being taught and the ways in which students may be asked to write in their actual chosen discipline. It seems that instructors in English departments, stuck with the responsibility of teaching composition to nearly every student in the university, are approaching their teaching from their own discipline specific world perspective and not that of the perspective their own students will be responsible for taking. In recent years, the move away from teaching grammar has been quite popular. However, this study suggests that teaching functional lexico-grammar could be quite beneficial to the students. If they can learn how to notice lexico-grammar difference between texts in multiple Genres and Registers, then they could possibly better apply their own lexico-grammatical knowledge to successfully composing in their own discipline. As it stands, students buy required handbooks which tell them they will receive “a solid foundation for the various types of writing” they “will do throughout” their “academic, professional, and personal lives” (Kirkwood, 2006, p. A-1); however, these same handbooks and professors may limit their voice by providing only one main world perspective from which they can reflect themselves. Therefore, they leave the English department prepared to use their action verbs, eliminate be-verbs, avoid passivization and nominalization etc., all the while potentially not succeeding in disciplines such as Biochemistry because they have exclusively heeded this advice. Students leave the English department with the ability to write surface-level grammatical clauses with proper syntax and punctuation, but they may not be as equipped with multiple discourse lexico-grammatical patterns which are required outside English departments.

REREFENCES

- Bloor, M. (1996). Academic writing in computer science. In E. Ventola & A. Mauranen (Eds.), *Academic writing: intercultural and textual issues* (pp. 59-87). Philadelphia: John Benjamins Publishing Co.
- Bloor, T., & Bloor, M. (2004). *The functional analysis of English: A Hallidayan approach* (2nd ed.). London: Arnold.
- Brown, H. (1935). The great American novel. *American Literature: A Journal of Literary History, Criticism, and Bibliography*, 7(1), 1-14.
- Connor, U., & Mayberry, S. (1996). Learning discipline-specific academic writing: a case study of a Finnish graduate student in the United States. In E. Ventola & A. Mauranen (Eds.), *Academic writing: Intercultural and textual issues* (pp. 231-253). Philadelphia: John Benjamins Publishing Co.
- Eggs, S. (2004). *An introduction to systemic functional linguistics* (2nd ed.). New York: Continuum.

- Ellis, J. (1987). The logical and textual metafunctions. In M.A.K. Halliday & R. Fawcett (Eds.), *New developments in systemic linguistic, Volume 1: Theory and Description* (pp. 107-129). New York: Francis Pinter.
- Faigley, L. (2006). *The Brief Penguin handbook: Custom edition for the department of English at Marshall University* (2nd ed.). New York: Pearson Custom Publishing.
- Fries, P. (1981). On the status of theme: Arguments from discourse. *Forum Linguisticum* 6(1), 1-38.
- Fries, P. (1995). Theme, methods of development, and texts. In R. Hasan & P. Fries (Eds.), *On subject and theme: A discourse functional perspective* (pp. 317-359). Philadelphia: John Benjamins Publishing Co.
- Gregory, M. (1987). Meta-functions: aspects of their development, status and use in systemic linguistics. In M. A. K. Halliday & R. Fawcett (Eds.), *New developments in systemic linguistic, Volume 1: Theory and Description* (pp. 94-106). New York: Francis Pinter.
- Halliday, M. A. K., (1967). Notes on transitivity and theme in English: Part 2. *Journal of Linguistics* 3.2, 199-244.
- Halliday, M. A. K., (1970). Language structure and language function. In J. Lyons (Ed.), *New horizons in linguistics* (pp. 140-164). Harmondsworth: Penguin.
- Halliday, M. A. K., (1973). *Explorations in the function of language*. London: Arnold.
- Halliday, M. A. K., (1985). *An introduction to functional grammar*. London: Arnold.
- Halliday, M. A. K., & Hasan, R. (1976). *Cohesion in English*. London: Longman.
- Halliday, M. A. K., & Matthiessen, C.M.I.M. (2004). *An introduction to functional grammar* (3rd ed.). London: Arnold.
- Keene, M., & Adams, K. (2006). *Easy access: A new handbook at a value price* (5th ed.). New York: McGraw-Hill.
- Kirkwood, R. (2006). Introductory letter. In *The brief Penguin handbook: Custom edition for the department of English at Marshall University* (2nd ed.). New York: Pearson Custom.
- Martin, J. R. (1991). Nominalization in science and humanities: Distilling knowledge and scaffolding text. *Functional and systemic linguistics: Approaches and uses*, 307-337.
- Martin, J. R., & Rose, D. (2003). *Working with discourse: Meaning beyond the clause*. London: Continuum.
- Piruat, J., & Lopez-Barneo, J. (2005). Oxygen tension regulates mitochondrial dna-encoded complex I gene expression. *The Journal of Biological Chemistry*, 280(52), 42676-42684.
- Thompson, G. (2004). *Introducing functional grammar* (2nd ed.). London: Arnold.
- Tucker, G. (2006). So grammarians haven't the faintest idea: reconciling lexis-oriented and grammar-oriented approaches to language. In R. Hasan, C. Cloran, & D. Butt (Eds.), *Functional descriptions: Theory in practice* (pp. 145-178).
- Ventola, E. (1995). What's in an (academic) text? In B. Warvik, S-K Tanskanen, & R. Hiltunen (Eds.), *Organization in discourse: Proceedings from the Turku conference* (pp. 109-128).
- Ventola, E., & A. Mauranen (1991). Non-native writing and native revising of scientific articles. In Ventola, E. (ed.), *Functional and systemic linguistics*. New York: Mouton de Gruyter (pp. 457-492).