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Talking About How: Variation in the Use of HOW and Its Definition

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TALKING ABOUT HOW: VARIATION IN THE USE OF *HOW* AND ITS DEFINITION

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by

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ABSTRACT

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This study identified the patterns that represent the unconventional ways that students used *how* in academic essays, determined the frequency of each pattern, and for the sake of comparison, searched for those patterns in the Corpus of Contemporary American English (COCA), in both the spoken and academic written registers. The results showed that a sample of first-year students at Central Washington University (CWU) used the complementizer *how* as *that* in their essays, a usage more common in spoken registers. However, there was some evidence of *how* as *that* in academic COCA searches, showing that the usage may be in the early stages of becoming acceptable by academic standards. Additionally, students misused *how* semantically in some sentences and misused *how* both semantically and syntactically in others. Finally, students also used *how* to mean *the fact/opinion that*. Students may have used *how* in these different ways because separating academic and spoken register conventions is difficult, because they lack an understanding of verb and prepositional complement patterns, or because they used synonyms provided by a thesaurus without realizing that the synonyms required different complement patterns.

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CHAPTER I

INTRODUCTION

"Should we talk about how you claimed your mom was a Filipino woman you'd never met," says a character from hit television show *Parks and Recreation* (2011). In this line, *how* is used in a way that might puzzle an English language learner (ELL) if they consulted a standard dictionary.[1] Both *Merriam-Webster Dictionary* and *The American Heritage Dictionary* have an entry in which *how* is defined as a conjunction equivalent in meaning to *that* or "the way or manner (in which)." Yet *that* could not replace *how* in the prior sentence, nor does *the way (in which)* accurately capture the meaning of the question:

> */?Should we talk about <u>that/the way (in which)</u> you claimed your mom was a Filipino woman you'd never met.[2]

Similarly, in the novel *Carrie Pilby* by Lissner (2010), a character says, "But I start thinking about how I need more to keep him interested in me and to get his mind off Shauna" (p. 226). And again, *that* could not grammatically replace *how*, and *the way* (*in which*) does not capture the precise meaning:

> */?But I start thinking about <u>that/the way (in which)</u> I need more to keep him interested in me and to get his mind off Shauna.

A better definition for *how* in these sentences, when it follows a preposition, would be "the fact that," which would indicate that what follows is true in the mind of the speaker or writer, accurately capturing the meaning of the sentences.

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[1] For the purpose of this study, *they* will be used as both a singular and a plural third-person pronoun given the trend to do so.

[2] The asterisk indicates that the usage would currently be considered problematic; the question mark indicates that the possibility of evolving usage is under investigation.

However, interchanging *that* for *how* is not always awkward. For example, in Kamkwamba and Mealer's (2009) creative nonfiction book, *The Boy Who Harnessed the Wind*, the narrator stated that "[t]hey [the herd boys] explained how they'd been tending their herd that morning and discovered a giant sack in the road" (p. 3). In this example, where *how* follows a verb, *that* is synonymous with *how*:

> They [the herd boys] explained <u>that</u> they'd been tending their herd that morning and discovered a giant sack in the road.

Substituting *the way* (*in which*) is also grammatically possible, but the meaning of the sentence does not refer to a process; *that* would be more precise and possible according to *Collins Cobuild English Dictionary* (1999).

These examples show that there is no strict correspondence between *how* and *that* or *the way* (*in which*). For example, in *Merriam-Webster Dictionary of English Usage* (1994), *how* is cited as *that* dating back to the 1000s (p. 514), but the editors point out that to equate *how* for *that* unequivocally is a little unfair, even though their own dictionaries do so. This incongruity signals that the definition of *how* needs closer examination, as evidenced by the discrepancy between judgments in the *Merriam-Webster Dictionary of English Usage* and the current *Merriam-Webster Dictionary*. If ELLs were to look up *how* in a standard dictionary after reading Lissner's (2010) novel or watching *Parks and Recreation* (2011), they could be confused. The discrepancy between dictionary definitions and actual usage suggests there may be some variation in *how*-complements[3] that warrants additional study.

[3] For this study, *how*-complements will refer to constructions in which *how* begins a construction functioning as a verb complement or prepositional complement.

These unconventional *how*-complements even appear in students' academic writing, most often when students use reporting verbs such as *explain* or *state*; however, the interchangeability between *how* and *that* is restricted to conversational registers, according to standard dictionaries. Yet students do occasionally use *how* in accordance with the *that* definition:[4]

1. The authors explain <u>how</u> shame and anxiety can increase with distorted images of the body, and eating habits.[5]

   The authors explain <u>that</u> shame and anxiety can increase with distorted images of the body, and eating habits.

2. Nicholar Carr states <u>how</u> the world wide web has boomed at an amazing rate since it's existence.

   Nicholar Carr states <u>that</u> the world wide web has boomed at an amazing rate since it's existence.

On the other hand, students produce sentences in which *how* and *that* are not interchangeable because prepositions are not followed by *that*-complements. In these examples, *how* and *the way* seem interchangeable; however, for this study, the sentences students produced did not describe "the way (in which)" or a "process," and, therefore, interchanging *how* for *the way* misses the meaning of the students' sentences.

Similarly, the verb *discuss* takes *wh*-complements or noun-phrase complements, not *that*-complements, so the form is not an issue when students follow *discuss* with a *how*-complement or *the way*. But a problem arises instead because the *how*-clause, in the context of the student's writing, does not explain a way, a manner, or a process:

[4] Excerpts from student papers have not been edited for grammar or spelling.
[5] The student did not provide an explanation of the process by which shame and anxiety can increase following this sentence.

?They discuss how/the way algae is harvested and processed for refinement.

All the previous examples were collected from assignments requiring paraphrase or summary writing, both often associated with reporting verbs. This type of verb is used to report or paraphrase the speech of others. In reported speech, following the conventions of Standardized English, the main verb can be followed by prepositional phrases:

1. He agreed with the proposal.
2. She believes in exercising daily.

The main verbs in reported speech can also be followed by *that* complements:

1. She believes that the middle class is shrinking.
2. He claims that academic success is a result of good study habits.

Additionally, these verbs can be followed by *whether/if* complements:

1. The author asked whether the problem was solvable.
2. They wondered if the project would be delayed.

Finally, the main verbs in reported speech can be followed by complement clauses beginning with *wh*-words:

1. He wondered what they will do for college.
2. She discussed where the climate would change drastically.

Noun phrases and *wh*-complements also follow prepositions that accompany reporting verbs.

There are two uses of *wh*-complements recognized in standard dictionaries. One use of *how*, when it means “the way (in which),” falls clearly into the category of *wh*-word complement:

He explained how it happened.

In this sentence, a process is indicated, which will likely be explained in the next sentence. But when the meaning of *how* is equivalent to *that*, *how* falls more neatly into the *that*-complement category.

She explained how she had no intention of leaving.

However, as previously noted, there are other uses of *how* that do not fit as well into these categories. There are several ways to consider variation in usage. First, forms that veer from the standard may simply be mistakes or errors. Alternatively, variation may signal differences in register, such as differences between informal conventions and academic writing. *Merriam-Webster Dictionary of English Usage* (1994) has already noted a difference between usages in the spoken and written registers. Variation may also be the result of linguistic evolution: Native speakers may be using *how* in new ways.

This research project questions what these *how*-complements mean for academic writing, asking if they signal a difference in register or a real change in native speakers' use of academic language. In either case, these constructions would eventually need to be taught to ELLs. The questions that drive this study are as follows:

1. What patterns represent the unconventional ways that students use *how*-complements in academic writing in a sample corpus of English 101 and English 102 student essays?
2. What is the frequency of each pattern in the sample corpus of English 101 and English 102 student essays?
3. In 2015 to 2017, how often does each pattern occur in COCA spoken and academic written registers?

4. Do the unconventional patterns found in student essays resemble the spoken or written academic register?

To answer these questions, examples of *how*-complements were collected from 123 essays written for first-year composition courses at CWU. Unconventional *how*-complements used in these essays were compiled, entered into spreadsheets, and then analyzed.

The results of this study are important for learners studying academic English (for both ELLs and those students whose primary language is English). The results will also interest teachers responsible for academic writing instruction.

The next chapters provide background information for the study, the method of analysis, the results of the research, and the discussion of their significance. In Chapter 2, the expectations of academic writing in general and academic writing at CWU in particular are discussed. Then, the conventions of reported speech and its alignment with academic conventions are described. In Chapter 3, the methodology used to collect data and to analyze *how*-complements is outlined, followed by the results of the study and a discussion of those results in Chapter 4. Finally, in Chapter 5, implications and limitations of the current study and the need for further research are discussed.

CHAPTER II

LITERATURE REVIEW

This study is an attempt to account for variation in the use of *how* in students' academic writing and to question whether the definition of the word itself warrants revision. As background for the project, this chapter discusses (1) the expectations of first-year academic writing courses generally and the writing outcomes at CWU specifically, (2) the current conventions of reported speech used in the types of essays assigned, (3) the differences between mistakes and errors, and (4) the methods of studying usage.

Academic Writing Course Standards and Expectations

In an attempt to learn about shifts in first-year writing over the last few decades, Lunsford and Lunsford (2008) replicated a 22-year-old study of first-year student writing; to repeat the study, they analyzed 3,000 college-level student papers and found that essays "are longer, employ different genres, and contain new error patterns" (p. 781).

In the original study, Connors and Lunsford (1988) asked 300 teachers for marked student papers from first-year composition courses and collected over 21,000 papers from teachers across the United States. The researchers randomly drew a sample of 3,000 papers from those collected to be representative of the mass data in terms of region of the country, size of the institution, and type of institution. The researchers analyzed patterns of teacher response to the essays as well as spelling patterns that emerged. Although spelling was the most frequent student mistake by nearly 300%, Connors and Lunsford analyzed formal errors other than spelling, justifying this shift in focus with their historical research of students' patterns of formal error.

In the follow-up study, Lunsford and Lunsford (2008) also found that essays were generally over two-and-a-half times longer than the essays of previous studies on record. Table 1 (Lunsford & Lunsford, 2008, p. 792) provides a list of four studies and the word count for each:

Table 1

Comparison of Average Length of Student Essays, 1917-2006[1]

Study	Year	Average Length of Paper
Johnson	1917	162 words
Witty & Green	1930	231 words
Connors & Lunsford	1986	422 words
Lunsford & Lunsford	2006	1038 words

Lunsford and Lunsford (2008) also discovered that the types of papers assigned to students had changed over time (see Table 2). They explained that the papers submitted for Connors and Lunsford's (1988) study included some reports and a fair amount of literary analysis, but most assignments were personal narratives. However, in the replication of the study, the types of papers varied greatly (Lunsford & Lunsford, 2008, p. 793):

[1] Because Hodges (1941) did not publish his findings, his study is omitted from this comparison in Lunsford and Lunsford's (2008) study. For Lunsford and Lunsford's (2008) study, the papers were collected in 2006.

Table 2
Types of Papers Submitted in 2006

Types of paper	Number found in 877 papers
Researched argument or report	287
Argument with very few or no sources	186
Close reading or analysis	141
Compare/contrast	78
Personal narrative	76
Definition	21
Description	18
Rhetorical Analysis	16
Proposal	11
Process analysis	10
Reflective cover letter	3
Other[2]	30

It is not surprising that Lunsford and Lunsford (2008) found that students were writing longer papers, given that the most common type of paper required research, which would take extra pages to report. Papers that require the summarizing or paraphrasing of research are the focus of the current investigation because the *how*-complement appears in this type of assignment.

The results reported in Table 2 suggest that argument and research have replaced personal narrative essays as the most common assignment, a finding that, as Lunsford and Lunsford (2008) point out, aligns with Fulkerson's (2005) earlier study, which

[2] The *other* category included fiction, letters to aliens, an in-class essay, a news article, I-searches (a less formal research paper), a play, interviews, a biographical sketch, a book report, and letters.

indicated that argument-based textbooks have increasingly become the primary text in 21st-century composition classes, regardless of differences in the approaches to the courses themselves. Of course, narrative style of writing may be required in argumentation and research essays when students are using qualitative evidence to support an opinion, but the focus of essays in current first-year composition courses has shifted definitely away from narrative.

Textbooks and essay assignments that center on argumentation and research may have flourished because of the evolving goals for first-year writing courses established by the Council of Writing Program Administrators (CWPA). The council is a national association of college and university faculty who have created outcomes for first-year composition programs. Their first-year composition outcomes statement, originally published in 1999 and revised as recently as 2014, focus on the following: knowledge of rhetorical situation; critical thinking, reading, and composing; processes; and conventions.

The CWPA has consistently stated that students should have the opportunity to write various types of papers. The narrative assignment typical at the time Connors and Lunsford (1988) conducted their study is no longer common. The CWPA's 1999 outcomes focused on responding appropriately to various types of rhetorical situations. With regard to research writing, the 1999 version stated that students should learn to "integrate their own ideas with those of others" (p. 60). Although this is just one of the many outcomes listed by the CWPA, it is significant to this study because of the type of linguistic structures such writing entails.

In 2014, the CWPA both expanded and specified outcomes in all areas. The discussion of research writing was revised to help students locate and evaluate primary and secondary research materials for credibility, sufficiency, accuracy, timeliness, bias, and so on. Students were expected to use books, journal articles and essays, professionally established and maintained databases or archives, and informal electronic networks and Internet sources. They were also expected to use strategies such as interpretation, synthesis, response, critique, and design and redesign to compose texts that integrate their ideas with those from appropriate sources.

The change between the CWPA 1999 and 2014 statements showed a stronger focus on analysis and research, especially on evaluating and integrating sources into student writing. The outcomes showed little focus on personal narrative style essays, the former most popular composition assignment. Rather, Fulkerson (2005) and Lunsford and Lunsford (2008) were accurate in their assumption that academic writing courses' outcomes have shifted. Fulkerson, specifically, argued that CWPA's focus on students' ability to integrate their own theses with source claims aligns with the focus of writing courses on argumentation and decoding of arguments.

Central Washington University First-Year Composition Courses

Understanding the writing expectations at CWU is essential because this study of *how*-complements took place at this institution. At CWU, English 101 (Composition I: Critical Reading and Responding) and English 102 (Composition II: Reasoning and Research) make up the first-year composition courses. In English 101, outcomes include attention to source-based writing, so students learn to paraphrase, summarize, and synthesize the work of others. Specific lessons teach them to use attributive tags such as

"the author states," "the author argues," "the author claims," and so on. In English 102, students develop skills in research-based academic argument through evaluation, analysis, and synthesis of multiple sources.

Both of the CWU first-year composition courses align with CWPA goals. They also support Lunsford and Lunsford's (2008) findings that composition courses now commonly emphasize research and argument. CWU students do not currently write personal narratives in first-year composition classes. Of course, personal narrative may be used in essays as qualitative evidence in response essays or in course reflections, but the focus of the courses is primarily critical reading, reasoning, and research. Therefore, the types of sentence structures predominantly used in these academic writing courses will differ in some respects from those of the past because personal narrative does not generally require students to report on the work of others.

Conventions of Academic Language

Because first-year composition course expectations have shifted from personal narrative to research-based essays, the type of language used in the papers has also changed. In an attempt to provide a resource for English academic purposes, Coxhead (2000) developed *The Academic Word List* (AWL). The list was compiled from a corpus of 3.5 million words found in academic text through an examination of the frequency of words that do not appear in the first 2,000 most frequently occurring words of English. By excluding these frequently occurring words, Coxhead was able to eliminate words that are so common that they are unavoidable in every register.

According to Coxhead (2000), the AWL is an improvement upon Xue and Nation's University Word List (UWL). The overlap of the two lists is 51%. The words

found in the latter list that do not overlap with those from the AWL might be useful for students to learn. However, for words to be recorded on the AWL, they had to appear at least 100 times in the academic corpus developed, whereas the non-overlapping words occurring in the UWL appear only 50 times or less in the academic corpus. Because they occur less frequently, the words found on the UWL may rarely or never occur in academic texts. Therefore, these outliers are useful but are not necessarily high-frequency academic words.

When organizing the AWL, Coxhead (2000) categorized words into word families. These families are the word stem and all closely related affixed forms. Coxhead determined what qualifies as closely related affixed forms by using Bauer and Nation's (1993) Level 6 scale. This scale defines affixes as all derivations and "the most frequent, productive, and regular prefixes and suffixes" (p. 255). Only those affixes that can be added to stems and together stand as free forms are included. For example, *specify* and *special* are not in the same word family because *spec* is not a free form.

Some of the highest frequency word families on the list are verbs that could appear in a student's source-based paper: *analyze*, *assume*, *establish*, *estimate*, *identify*, and *respond*. All of these words appear among the top 50 most-used words, including all members of the word family. Of the verbs used by students before their *how*-complements, none appear on the AWL. However, nearly all of the verbs are among the top 2,000 most frequently occurring words.

Direct Quotation and Paraphrase in Academic Writing

For students to use researched source information in academic essays by summarizing and paraphrasing, they must understand the conventions of quoting and

paraphrasing, both of which refer to conveying spoken or written messages of other speakers or writers. When speaking, students use reported speech whenever they are mentioning what a friend, teacher, or classmate said. However, the conventions of reporting source information in academic writing differ from those used in speech.

Larsen-Freeman and Celce-Murcia (2016) divide reported speech into three categories: direct quotation, indirect reported speech (including reported written text), and paraphrase. The authors provide the following examples to indicate the categories:

Original source (J. Smith): School budgets will not be cut during this recession.

1. Direct quotation: Smith stated, “School budgets will not be cut during this recession.”
2. Indirect reported speech: Smith stated that school budgets would not be cut during this recession.
3. Paraphrase: Smith stated that during the recession no reductions in school budgets would occur.

When reporting speech, students need to follow more steps for indirect reported speech and paraphrases than for direct quotations. For example, for students to write a direct quotation, they must state the source name, followed by a reporting verb, such as *claim*, and then a full quotation. However, for students to use indirect reported speech, students must state the source name, a reporting verb, and a complement appropriate for the reporting verb used. Finally, to paraphrase, students must state the source name, a reporting verb, a complement for the reporting verb used, and a rewording of the original source statement. Therefore, indirect reported speech and paraphrasing are more complicated for students to use. It should be noted that repeating the words or sentence

structures of the original source in indirect reported speech would be considered plagiarism by academic standards.

According to Quirk, Greenbaum, Leech, and Svartvik (1985), reporting clauses[3] can be divided into two categories: direct speech or indirect speech. Direct speech allows students to give the exact words that someone utters or has uttered, like Larsen-Freeman and Celce-Murcia's (2016) direct quotation. Indirect speech, contrastingly, conveys the original speaker's or writer's words in a subsequent paraphrase. The authors provide the following example to convey the difference between direct and indirect speech:

1. Direct speech: David said after the conference, "In my opinion, the arguments in favour of radical changes in the curriculum are not convincing."
2. Indirect speech: David said after the meeting that in his opinion the arguments in favour of radical changes in the curriculum were not convincing.

These examples complement Larsen-Freeman and Celce-Murcia's (2016) examples of direct quotation and indirect reported speech. Although Quirk et al. do not list paraphrase as separate from direct and indirect speech, they do mention that indirect speech frequently involves paraphrase or summary.

Larsen-Freeman and Celce-Murcia (2016) and Quirk et al. (1985) all agree that direct quotations[4] are enclosed in quotation marks. The attributive tag, which signals who the speaker was and the main verb, may occur before, within, or after the direct quotation:

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[3] These authors choose to refer to reported speech as reporting clauses. For the purpose of this investigation, *reported speech* will be used to include Quirk et. al's *reporting clauses.*

[4] For the purpose of this investigation, *direct quotation* will be the term used to include *direct speech*.

Original source (H. Granger): School curriculum will not be changed this school year.

1. Granger stated, “School curriculum will not be changed this school year.”
2. “School curriculum,” stated Smith, “will not be changed this school year.”
3. “School curriculum will not be changed this school year,” stated Smith.

Students rarely have trouble with the structure of direct quotations. When they paraphrase, however, they often use unfamiliar reporting verbs without understanding what types of complements they take.

Quirk et al. (1985) provide a list of reporting verbs of speaking or thinking, shown in Table 3, that are frequently used with both direct speech and indirect speech, all of which can be used in paraphrases and summaries as well:

Table 3

Frequently Used Reporting Verbs in Direct and Indirect Speech

add	*comment*	*object*	*say*
admit	*conclude*	*observe*	*shout (out)*
announce	*confess*	*order*	*state*
answer	*cry (out)*	*promise*	*tell*
argue	*declare*	*protest*	*think*
assert	*exclaim*	*recall*	*urge*
ask	*explain*	*remark*	*warn*
beg	*insist*	*repeat*	*whisper*
boast	*maintain*	*reply*	*wonder*
claim	*note*	*report*	*write*

While the list of reporting verbs may be useful visually and for rote memorization, Larsen-Freeman and Celce-Murcia (2016) point out that verbs frequently cross categories of use. For example, the difference between reporting verbs and other verbs primarily depends on their use rather than their innate semantics. The following examples demonstrate the difference:

1. The Washington governor explains the proposed tax cuts well.
2. The Washington governor explained the difference between the new tax cuts and tax deductions during the press conference last week.

Of the two sentences, a reporting verb only occurs in sentence (2). In sentence (1), the verb introduces a claim about the governor's ability to clearly explain a proposal, whereas in sentence (2), the speaker is reporting on an event.

***That*-complements.** Paraphrases and summaries often include *that*-complements. Biber, Johansson, Leech, Conrad, and Finegan (1999) report that *that*-complements occurring in post-predicate positions are common in reported speech and that *that*-complements are most common in academic prose. However, according to Larsen-Freeman and Celce-Murcia (2016), reporting verbs do not all take the same complements. The authors point out that "[v]erbs like *say* require tensed *that*-complements, verbs like *wonder* take question complements (i.e., both *yes/no* and *wh*-), verbs like *order* take infinitives, and others take tenseless subjunctive clauses" (p. 744). Therefore, one reason students substitute *how* for *that* in academic writing may be because they do not understand which complements complete different verbs, nor have they acquired these complementation patterns naturally. Simply providing students with a list of common

reporting verbs without discussing their complements will not help students make distinctions.

That-clauses may function as the subject, direct object, subject complement, appositive, or adjectival complement in sentences (Quirk et. al, 1985). This study focuses only on its role as a direct object following a reporting verb:

Audiences noticed *that Smith employed pathos in his argument.*

One function that *that*-complements do not have in unmarked sentences is as a prepositional complement. In contrast, a clause beginning with *how* can function as either a direct object or a prepositional complement, both of which will be discussed later.

When the *that*-complements is a direct object, the complementizer *that* is frequently omitted except in formal use, leaving a zero *that*-complement, which is common when the clause is brief and uncomplicated (Quirk et al., 1985):

1. Iwamoto believed <u>that</u> the compromise would be easy.
2. Iwamoto believed <u>the compromise would be easy</u>.

Some reporting verbs that take *that*-complements include *argue*, *declare*, *propose*, *report*, and *say*:

1. Scott argued <u>that organic foods should be affordable to all citizens.</u>
2. Wilson declared <u>that feminist theory took precedence over historicism.</u>
3. Thomas proposed <u>that the college accept all students regardless of economic status.</u>
4. The committee reported <u>that the company's image after the disaster needed drastic improvement.</u>
5. The authors said <u>that book bans were unconstitutional in America.</u>

Some reporting verbs with complements require indirect objects, some cannot take them, and some take them optionally. Larsen-Freeman and Celce-Murcia (2016) provide examples of those verbs:

1. No indirect object: *agree*, *realize*, *conclude*, *think*, *believe*, *say*, *prove*, *wonder*
    a. Connor agreed (*him) that the proposal was accurate.
    b. They said (*him) that it was an example of climate change.
2. Obligatory indirect object: *tell*, *assure*, *convince*, *persuade*, *remind*, *inform*, *warn*
    a. She informed the committee that taxes will rise.
    b. The speaker convinced the audience that humpback whales should remain on the endangered species list.

Biber et al. (1999) claim, based on information from the Longman Spoken and Written English Corpus, over 80% of *that*-complements occur in post-predicate positions controlled by a verb. The most common verbs that take *that*-complements are *think* and *say*, neither of which occur in this study's corpus of unconventional complements, and other very common verbs taking *that*-complements are *know*, *see*, *find*, *believe*, *feel*, *show*, and *suggest* (Biber et al., 1999). *Show* was among the more common verbs used by students in this study.

***Wh*-complements.** *Wh*-complements are more common in conversation than in other registers, appearing rarely in news or academic prose (Biber et al., 1999), and many verbs that take *that*-complements can also take *wh*-complements. Biber et al. (1999) state that *wh*-words, such as *why*, *who*, *what*, and *how*, may be used as the head of complement

clauses.[5] These clauses are complements of verbs such as *argue, decide, demonstrate, discuss, explain, indicate, note, notice, point out, say, tell,* and *think* (Quirk et al., 1985). *Wh*-complements in this pattern generally imply a lack of certainty on the part of the speaker or writer (Biber et al., 1999).

Biber et al. (1999) explain that the verbs that precede the *wh*-complements are most commonly *know, see, wonder, ask,* and *understand*. None of the verbs commonly used with *wh*-complements, as reported by Biber et al., were used by students in this study.

Wh-complements function similarly to *that*-complements in that they may also function as direct objects. Another similarity between *that*-complements and *wh*-complements is that the most common verbs that take *wh*-complements are from the same semantic network as those that take *that*-complements (Biber et al, 1999). But *wh*-complements differ from *that*-complements because they can also function as prepositional complements. The following sentences are examples of each:

1. Direct object: The author discussed <u>how the merger was executed</u>.
2. Prepositional complement: The controversy is about <u>how they will designate responsibility for possible failures</u>.

Quirk et al. (1985) explain that *wh*-complements resemble *wh*-questions because they leave a gap of unknown information that is represented by the *wh*-element. For example, specific information in the *that*-complement differs from the unknown information in the *wh*-complements:

1. Henderson declared (<u>that</u>) <u>the plan would fail</u>.

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[5] This study will use *wh*-complement as the general term that includes *wh*-complement clauses.

a. Do the readers know <u>what would fail</u>?

2. The school knew (<u>that</u>) <u>parents were incorrect about strong academic practices</u>.

    a. The school did not know <u>who was incorrect about strong academic practices</u>.

In *wh*-complements, the *wh*-element is placed first in its clause, unlike its position in an uninverted question; *wh*-complement structures most closely resemble indirect *wh*-questions:

1. The employees would strike <u>why</u>?
2. The president of the company asked <u>why the employees would strike</u>.

Wh-complements can also complement ditransitive verbs, according to Quirk et al. (1985), whether in the active or passive voice:

The lecturer <u>asked</u> the students <u>what types of papers they had written before</u>.

The students were <u>asked</u> (by the lecturer) <u>what type of papers they had written before</u>.

Ditransitive verbs can also introduce other question words such as *where* and *how* (Quirk et al., 1985):

1. Potter was reluctant to inform readers (<u>of</u>) <u>where</u> the company's revenue was spent.
2. Granger reminded the audience (<u>about</u>) <u>how</u> Germany was defeated in WWII.[6]

[6] This sentence construction is not an unusual *how* usage if the process of defeat is explained.

Quirk et al. (1985) explain that a preposition may always be placed before the *wh*-complement, but it is sometimes optional, as in the previous examples. Sometimes, retaining the preposition is obligatory:

I asked them on what they based their predictions (Quirk et al., 1985, p. 1051).

In addition, ditransitive verbs can be complemented with an indirect object followed by a *wh*-infinitive (Quirk et al., 1985). Some verbs that take this complementation pattern are *advise*, *ask*, *instruct*, *remind*, *show*, *teach*, *tell*, and *warn*:

1. The instructor taught students how to write academically.
    a. The students were taught (by the instructor) how to write academically.
2. They advised the college where to make budget cuts.

***How*-complements.** The standard *how*-clauses relevant to this study are (1) those that resemble *that*-complements, and (2) those that refer to processes or imply *the way* an action is accomplished or an event takes place:

1. Ross told the students how the assignments were due next week.
2. Congress explained how the voters made their decisions.

A usage mentioned in *Collins Cobuild English Dictionary* (1999), but not in *Merriam-Webster Dictionary*, *The American Heritage Dictionary*, or *Merriam-Webster Dictionary of English Usage*, is the placement of *how* at the beginning of a complement clause following an adjective such as *amazing* or *surprising*:

It is amazing how people so often misquote the Declaration of Independence.

According to *Collins Cobuild English Dictionary* (1999), *how* introduces a statement or fact in this type of sentence, often something someone remembers or expects other people

to remember. This usage may also be typical of certain reporting verbs; however, none of the other dictionaries consulted list this usage.

The types of sentences that sparked this research were those in which *about how* was used in atypical ways, such as *This source is an article from Forbes magazine that talks about how renewable energy has taken over the power industry.* Primarily, this construction occurs as *talk about how*.

According to *Collins Cobuild English Dictionary* (1999), *talk about* is followed by a noun phrase or a *wh*-infinitive:

1. The authors talk about the effectiveness of the war effort.
2. He talked about how to improve healthcare in his speech.

Noun-clauses can follow the prepositions *about*, *on*, *of*, and *with*, according to *Collins Cobuild English Dictionary* (1999). *How* can begin the noun clause, but only when followed by an infinitive *to*, such as in *He talked about how to improve healthcare in his speech* or when *how* means "the way" or implies a process, such as in *We talked about how they would get to the event*. However, student-produced sentences that prompted this study did not use an infinitive *to* in the noun clause, and when the *how*-complements were clauses, they did not mean "the way." Therefore, the constructions that students were using did not fit neatly into standardized patterns:

1. In Sean Gregory's article "Some College Athletes Will Now Get Paid—A Little," he talks about how the NCAA voted to allow sixty-five of the universities big in sport to be paid a bit on top of their scholarship.
2. Jim Cox's "Poverty in Rural Areas" even details how there is an even greater level of economic disparity within rural communities, strengthening many

> countryside-dwellers' resolves to avoid healthier alternatives when it comes to food.

The purpose of this study is to investigate how prevalent this type of unconventional sentence is and if the construction itself is worth noting in standard dictionaries and teaching to students as an error.

Mistakes and Errors

Unconventional usages of *how*-complements in student writing may signal that the language is changing. However, if these forms are not appearing frequently enough to be deemed standard, they will be considered as either mistakes or errors. Mistakes are deviant utterances produced by a student who is able to self-correct with prior knowledge, whereas an error is a deviant utterance if a student does not have the prior knowledge to know how to correct (Brown & Lee, 2015).

In the field of composition, studies of errors have a long history. As a preface to their own study of errors, Connors and Lunsford (1988) discuss the work of previous researchers:

> The great heyday of error-frequency seems to have occurred between 1915 and 1935. . . . Our historical research indicates that the last large-scale research into student patterns of formal error was conducted in 1938-39 by John C. Hodges. . . . Hodges collected 20,000 student papers . . . using his findings to inform the 34-part organization of his *Harbrace Handbook*. (p. 39)

According to Connors and Lunsford (1988), the results of Hodges's study were not published in academic journals, but the top ten most frequent errors were listed in the preface of the original *Harbrace Handbook*. However, others before Hodges had made

their own lists. Connors and Lunsford mention that both Johnson (1917) and Witty and Green (1930) also published the top ten most common student errors. These historical top ten lists are compared against Connors and Lunsford's[7] (1988) and Lunsford & Lunsford's (2008) findings in Table 4:

Table 4

Historical Top Ten Errors Lists

Johnson (1917) 198 papers surveyed	Spelling, capitalization, punctuation (mostly comma errors), careless omission or repetition, apostrophe errors, pronoun agreement, verb tense errors and agreement, fragments and run-on sentences, adjective and adverb usage errors, mistakes in the use of prepositions and conjunctions
Witty & Green (1930) 170 timed papers	Faulty connectives, vague pronoun reference, use of *would* for simple past tense forms, confusion of homonyms, misplaced modifiers, pronoun agreement, fragments, unclassified errors, dangling modifiers, wrong tense
Hodges (1938-39) 20,000 papers	Comma, spelling, exactness, agreement, superfluous commas, pronoun reference, apostrophe, omission of words, wordiness, use of *good* versus *well*
Conners & Lunsford (1988) 3,000 papers	Wrong word, no comma after introductory element, possessive apostrophe error, vague pronoun reference, wrong/missing inflected endings, comma splice, no comma in compound sentence, wrong or missing preposition, sentence fragments, no comma in non-restrictive element
Lunsford & Lunsford (2008) 3,000 papers	Wrong word, spelling error (including homonyms), incomplete or missing documentation, mechanical error with a quotation, missing comma after an introductory element, missing word, unnecessary or missing capitalization, vague pronoun reference, unnecessary or missing apostrophe (including *its*/*it's*), unnecessary or missing capitalization

[7] Spelling errors were omitted from the top ten errors in this study because this error constituted such a large number that the researchers decided to study it separately.

Over the span of the four studies, teachers varied widely when determining what was a markable error, and the results suggested that teachers do not mark as many errors as the stereotype of a teacher implies. Finally, error patterns had shifted since the time of Hodges's (1941) *Harbrace Handbook* to include mechanics, such as citation and documentation format and elements, supporting the notion that writing instructors have steadily increased their attention to research and integration of sources. Lunsford and Lunsford (2008) believe that shifts in errors are attributable to a trend toward longer essays being assigned in research and argument genres rather than in strictly personal narratives.

Cook (2010) replicated Lunsford and Lunsford's (2008) study, confirming that the frequency of errors increases with essay length. Furthermore, Cook asserts that to define errors is difficult because "errors can be framed as any other kind of rhetorical question, with its place-oriented (*locus*) means of making knowledge" (p. 25). Therefore, errors are only errors within specific contexts. For example, *The teacher talked about how the students discussed the topics thoroughly* is not an erroneous use of *how* if the context of the sentence is that the teacher actually discussed the methods students used to discuss the topics; however, in the sentences collected for this study, "procedure" or "manner" was not the meaning of the *how* constructions. If a sentence were not referring to a procedure or manner, it would be considered an error unless, of course, the language has changed but dictionary editors have not noticed.

Among the most common errors cited by Lunsford and Lunsford (2008), incorrect complements were not present; however, *wrong word* was the most common error found in both the 2008 and 1988 (Connors & Lunsford) study. Many of the wrong-word errors

seemed to be the result of incorrect spell-checker suggestions and seemed to be a result of students using the thesaurus function in word processors without verifying the definition of the word. What this indicates for this study is that students may be overgeneralizing complement structures, assuming that all verbs are followed by the same type of structure. The error then is not a wrong word but a wrong complement structure.

Changes in Usage

The possible interchangeability between *how* and *that* is far from the first change in usage for English speakers. Garner (2009), for example, has devoted entire texts to outlining changes in usage in American English, and one of the most common changes in usage concerns pronoun usage and sexism in writing and speaking. English has gender-neutral words, such as *person*, *anyone*, *everyone*, *no one*, and *they*, but there are no singular gender-neutral personal pronouns. Instead, speakers and writers are restricted to *he*, *she*, and *it*. Garner notes that traditionally, English language users would use masculine *he* and *him* to refer to all people; however, this practice has come under attack for its sexist language and has thus resulted in somewhat fluid usage rules.

Some academics alternate between masculine and feminine pronouns, but some readers find the alternation strange sounding, even though this interchange can maintain a grammatical construction and avoid the awkwardness of other alternatives, such as employing *himself or herself*, *him or her*, and *he or she* (Garner, 2009). Other writers have created makeshift solutions to the lack of gender-neutral singular pronouns by writing **s/he*, **he/she*, **she/he*, and even **s/he/it*.

Garner submits that while a writer can avoid using the traditional masculine pronoun by deleting the pronoun reference altogether, changing the pronoun to an article,

pluralizing the pronoun and antecedent, using the relative pronoun *who*, and repeating the noun instead of using a pronoun, the solution will likely be to use *they* as both a singular and plural personal pronoun, an increasingly common construction among speakers of British English and a construction that American English speakers still oppose. However, due to the ease of using singular *they* compared to the alternative solutions, singular *they* is on its way to becoming a standard usage. *The American Heritage Dictionary* notes that the usage of plural pronouns to refer to single antecedents dates as far back as 1300. And the information presented by *Merriam-Webster Dictionary* aligns with this note; the editors of *Merriam-Webster Dictionary* state that singular *they* has even been used in the writings of William Shakespeare and Jane Austen. Such usage, especially usage that has such a long history and that was employed by such famous writers, shows how the English language changes; the use of *how*-complements discussed in this study may be undergoing a similar change.

Methods of Studying Usage

Types of studies. Gass, Behney, and Plonsky (2015) outline three types of studies used in collecting data: longitudinal, cross-sectional, and pseudolongitudinal studies. Longitudinal studies are generally case studies in which data are collected from a single subject or a small number of subjects over a prolonged period of time. These data are generally spontaneous speech samples that are elicited by conversation starters or written prompts. Gass et al. mention that longitudinal studies are useful in determining developmental trends.

Gass et al. (2015) explain that cross-sectional studies generally consist of data gathered from a large number of participants at a single point in time. These data are

based on controlled rather than spontaneous output. Research for cross-sectional studies tend to be more quantitative and focused on statistical analysis.

Pseudolongitudinal studies emphasize language change in which data are collected at a single point in time but with different proficiency levels represented. Like cross-sectional data collection, pseudolongitudinal studies focus on quantitative data that can be generalized.

Gass et al. (2015) qualify that the boundaries of these study types are not rigid, but rather are suggestive and that there is flexibility in defining research as being any one type. This study collected authentic language and, therefore, spontaneous data from a range of participants over three years, making the study somewhat longitudinal. Students, while all in first-year composition classes, did have a variety of experience in writing, making the study somewhat cross-sectional. This study also focuses on generalizable quantitative data, making it somewhat pseudolongitudinal. Therefore, while this study is not categorizable as singularly cross-sectional, longitudinal, or pseudolongitudinal, it incorporates elements of all three types.

Corpus-based methods. To determine the patterns of spontaneous student data, corpus searches enable researchers to study the emergence of certain forms from an existing corpus of spontaneous data. Corpora are bodies of text that are analyzed for grammatical or lexical patterns by researchers using computers. One advantage of corpus-based research, according to Gass et al. (2015), is that it facilitates and automates the process of data collection, making research somewhat easier. Also, many large corpora that account for multiple registers and that have been made available for general

use produce more data than non-corpus methodology, so generalizations about patterns derived from corpus-based searches are more reliable.

COCA, originally created by Mark Davies, professor of Linguistics at Brigham Young University, is likely the largest corpus of English; the corpus is composed of more than 560 million words from more than 220,225 texts produced between 1990 and 2017. It was most recently updated in December 2017. COCA is evenly divided between five genres: spoken, fiction, popular magazines, newspapers, and academic journals.

The present study includes two types of corpora: (1) a project-specific corpus, and (2) COCA. The results from searches in each corpus were analyzed and compared.

CHAPTER III

METHODS

The purpose of this study was to explore whether unconventional *how*-complements in students' academic writing represent a shift in student perceptions of academic language or represent a previously unexamined type of error. Students are encouraged to take English 101 (Composition I: Critical Reading and Responding) and English 102 (Composition II: Reasoning and Research) during their first year at CWU.

First, student essays from first-year composition classes at CWU were examined to determine what patterns represent the ways students use *how* unconventionally; the frequency of each pattern was determined. Then, the patterns of *how* that were found in the student essays were searched for and compared with data from a corpus search of academic and spoken COCA registers. The methodology for each part of this study will be discussed in the sections that follow.

Part I: Student Paper Data Collection and Organization

Background. Participants in this study were never surveyed or asked about their *how* usage, rather, over time, I noticed the construction appearing regularly in student papers and decided to study whether patterns existed. The *how* constructions were never taught or discussed in class and, therefore, are organic constructions produced by first-year composition students.

Every quarter, students signed an assignment release form that allowed their work to be used, generally, for research, for assessment, or for future use as sample papers. To be able to use my previous students' papers, however, I had to obtain approval from the Human Subjects Review Council. The council determined that because I was using

previous work from students who had given written permission for me to use their work in research and future classes, they did not need to provide additional consent. As long as all names, dates of courses taken, grades, and any other identifying information were removed from the papers, the research was exempt from further institutional review.

Participants. At CWU, over 90% of the student population is from Washington state; over 69% of the students are 18 to 24 years old; over 51% of the students are female and approximately 48% are male; finally, 58.8% of the student population is White, 13.3% are Hispanic, 16% have an unknown ethnicity, and the remainder of the students are Asian, Black or African American, or nonresident aliens.

Initially, I read through 123 student essays and found 68 that included unconventional *how* constructions. A *how*-complement was considered unconventional if a process was not being described or if a student seemed to be using *how* for *that*. Then, I read through each participants' usages and made sure that only one verb+*how* or verb+preposition+*how* construction was recorded per paper. After I narrowed down the sentences so that no one participant could skew the data, 78 sentences with atypical *how*-complements were recorded.

Data collection and organization. Papers from CWU English 101 and English 102 classes were collected for this study. Because papers were submitted electronically, they were searchable and thus constitute the corpus for this part of the study. The search function on Microsoft Word was used to highlight *how*-complements. Then, I read each paper to determine if those highlighted sentences represented an unconventional usage. Only those sentences that contained atypical usages of *how* were copied into a master

spreadsheet.[1] In total, 123 essays were read and 78 sentences that included unconventional *how* constructions were recorded.

Next, under the guidance of my mentor, the pattern of each *how*-complement was categorized according to its position in a sentence, such as a verb complement or a prepositional complement. Data were entered into new spreadsheets that displayed the *how*-complements that followed a particular pattern.

The first pattern includes sentences in which a verb is followed by the *how*-complement. These constructions are called verb complement clauses (or noun clauses functioning as direct objects). Sometimes, the *how*-complement followed the verb directly, as in (1) below; other times, it was the second part of a compound structure in which the first part was a noun phrase. Both parts were joined by *and*, as in (2) below:

1. That idea represents <u>how we should not take the world or each other for granted</u> and that a Jeep can also give some excitement across the globe.
2. Behuniak examines these divergences and <u>how they contribute to the issue over all</u>.

Then, I looked up each verb in *Collins Cobuild English Dictionary* (1999) to determine what type of complement was considered conventional for each verb. I chose this dictionary because it includes detailed information about complement patterns and because these patterns are based on authentic data.

Student-produced *how*-complements represented one of two patterns: *how* acting as verb complements or acting as prepositional complements. In the first pattern, the *how*-complements followed (1a) verbs that take *that*-complements only, (1b) verbs that

[1] Names were removed from the papers, and each paper was coded so that I could return to the original paper for further reference if necessary.

take both *that*-complements and *wh*-complements, (2) verbs that take *wh*-complements only, or (3) verbs that take neither *that*-complements nor *wh*-complements**.**

The second pattern is found in sentences in which a verb is followed by a preposition and then by a *how*-complement used as a prepositional complement (or the object of the preposition):

1. In this article, Kermit Hall talks about <u>how academic freedom and freedom of speech go together</u>.
2. The author writes about <u>how the athletes are already given something valuable</u> and that is a college education.

After all *how*-complements were categorized, I recorded what verb (V) or V+preposition (Prep) combination were used and using spreadsheet functions, calculated the frequency with which each verb and V+Prep appeared. This step established which verbs and verb-preposition combinations most often preceded uncommon usage of *how*-complements.

Part II: COCA Data Collection and Organization

Background. To accurately assess whether the student-produced constructions reflected a change in academic writing, I needed to compare student corpus data to academic corpora. This study used COCA searches to find atypical patterns of *how*-complements used in academic texts between 2015 and 2017.

Data collection and organization. The verbs preceding *how*-complements in student data were recorded and then were entered, followed by *how*, into the search field of COCA, limiting the registers to *academic* and *spoken* and to the 2015-2017 date range. Then, each data point was read to determine if *how* was used unconventionally. If a

sentence was atypical, it was recorded in a spreadsheet with the corresponding verb and categorized as *academic* or *spoken*.

Part III: Comparison of Student Papers to Published Academic Writing

After the student data were organized into categories that represented the unconventional ways that students use *how* in academic writing, I had to determine the frequency of each pattern in the student corpus. The frequency of each pattern was determined by dividing the number of data in each pattern by the total number of data. Additionally, the frequency of each verb occurring in the V+*How* pattern was determined by dividing the number of verb occurrences by the total number of data in the pattern. The same process was repeated for each V+Prep+*How* type in the pattern.

The same process was repeated to determine how often each verb followed by *how* occurred in the spoken and written COCA registers: I divided the number of atypical usages by the number of instances of each V+*How* and V+Prep)+*How* to find the frequency of each construction in addition to finding the frequency of V+*How* versus V+Prep+*How*.

CHAPTER IV

RESULTS AND DISCUSSION

The overall aim of this study was to determine the ways that students were using *how*-complements in academic writing and to determine if the frequency of that usage warrants a change in the way *how* is defined for the academic register. The following sections, organized according to research question, provide the results of the study and a discussion of those results.

Patterns of Unconventional *How*-Complements in the Student Corpus

The first question of this study asked what patterns represent the unconventional ways that students use *how*-complements in academic writing in a sample corpus of English 101 student essays. Students used *how*-complements as verb complements (V+*How*) and as prepositional complements (V+Prep+*How*), the two main patterns established by this study. The unconventional sentences the students produced in the V+*How* pattern fall into three categories: (1) the *how*-complement is used as a *that*-construction, (2) the *how*-complement is misused semantically, and (3) the *how*-complement is misused semantically and syntactically. To determine if the verbs used in the V+*How* pattern took *that*-complements, *wh*-complements, or both, I looked them up in *Collins Cobuild English Dictionary* (1999). Table 5 summarizes the verbs used in the pattern and their complements:

Table 5

Verbs Used in Student Corpus and their Complements

Verbs that take *that*-complements only	*illustrate, state*
Verbs that take both *that*-complements and wh -complements	*explain, learn, mention, note, point out, show*
Verbs that take *wh*-complements only	*describe, discuss*
Verbs that take neither *that*-complements nor *wh*-complements	*address, cover, depict, examine*

In the V+*How* pattern, the first category consists of a reporting verb followed by a *how*-complement in which *how* functions as *that*. According to the *Merriam-Webster Dictionary of English Usage* (1994), this complement pattern is typical of some verbs in the spoken register:

1. Lastly, Mayer states how David Carr, a drug and alcohol addict who became a New York Times journalist, wrote his memoir using personal intelligence.
    a. Lastly, Mayer states that David Carr, a drug and alcohol addict who became a New York Times journalist, wrote his memoir using personal intelligence.

The verbs used by students that take only *that*-complements are *illustrate* and *state*.

Another type of verb that can take *that*-complements is slightly more complex because syntactically, according to *Collins Cobuild English Dictionary* (1999), the verb can take a *wh*-complement as well, such as the *how*-complement examples collected for this study. However, semantically the *how*-complement does not express the process meaning of a standard *wh*-complement; therefore, when the students used these verbs,

they seemed to be using *how* as *that*:

1. In Malcolm Gladwell's well-written article "Blink," he explains <u>how</u> people are preprogrammed to consider the logic behind a decision proportionate to the amount of time put into making the assessment.
    a. In Malcolm Gladwell's well-written article "Blink," he explains <u>that</u> people are preprogrammed to consider the logic behind a decision proportionate to the amount of time put into making the assessment.

Students used *how* to mean *that* after the verbs *explain*, *learn*, *mention*, *note*, *point out*, and *show*. Although using *how* for *that* is conventional in spoken registers, it is still unconventional in academic writing unless corpus data confirm that using *how* for *that* appears in published academic registers as well. The *how*-complement might be used in just one way in academic English to avoid confusion. For example, if readers see *how*, they might expect to read about a process rather than a fact or opinion.

In the second category, the *how*-complement is misused semantically. Verbs falling into this category are *describe* and *discuss*, which, according to *Collins Cobuild English Dictionary* (1999), take *wh*-complements but not *that*-complements. However, the usage did not convey an accurate meaning for a *wh*-complement in the context of the students' writing, which would have been to mention a process or explanation. Nonetheless, it is possible that the students were replacing *the fact/opinion that* with *how*, a definition missing from dictionaries:

1. He describes <u>how</u> we have to put personal emotions aside and look at the natural order of things (120-121).

a. ?He describes <u>the fact/opinion that</u> we have to put personal emotions aside and look at the natural order of things (120-121).

2. In this essay, the author discuss <u>how</u> media effects the body images of young woman in America.

    a. In this essay, the author discuss <u>the fact/opinion that</u> media effects the body images of young woman in America.

For these sentences, it is difficult to determine what the students' intended meaning was. Sometimes *the fact/opinion that* works, as in example (2); however, the replacement does not always work, as in example (1). Therefore, some of these usages may be just errors. Regardless, because no process was explained, the *how*-complement was not used according to the traditional definition of *how*, making the usage unconventional by academic writing standards.

The final category was when *how* was the misuse of *how*-complements both syntactically and semantically. According to *Collins Cobuild English Dictionary* (1999), the verbs in this category take neither *that* nor *wh*-complements: *address*, *cover*, *depict*, *detail*, and *examine*. Instead, they are followed by a *how*-complement that does not explain a process or imply *the way*. In these sentences, the *how*-complement also seemed to imply *the fact/opinion that*. In some of the usages, the *how*-complement immediately followed the reporting verb, as in sentence (1), and in others, the *how*-complement appeared in the second part of a compound structure in which the first part was a noun phrase (thus creating a lack of parallelism between the two parts). Both parts were joined by *and*, as in (2) below. In these constructions, *how* could also be replaced with *the fact/opinion that*:

1. Jim Cox's "Poverty in Rural Areas" even details how there is an even greater level of economic disparity within rural communities, strengthening many countryside-dwellers' resolves to avoid healthier alternatives when it comes to food.
    a. Jim Cox's "Poverty in Rural Areas" even details the fact/opinion that there is an even greater level of economic disparity within rural communities, strengthening many countryside-dwellers' resolves to avoid healthier alternatives when it comes to food.
2. Mayer uses this point when he depicts the story of Homer Hickman and how Homer eventually came to work for NASA (79).
    a. Mayer uses this point when he depicts the story of Homer Hickman and the fact/opinion that Homer eventually came to work for NASA (79).

These *how*-complements, like those used after *describe* and *discuss* (verbs that take only *wh*-complements), seem to mean *the fact/opinion that*. However, without interviewing the students, there is no way to tell the intention of the *how*-complement. But the usage is still deviant from standard dictionary definitions of *how* and from academic writing conventions.

In sum, *how* seems to be functioning as *that* after the verbs *explain*, *illustrate*, *learn*, *mention*, *note*, *point out*, *show*, and *state* in student writing. Some of these verbs take *that*-complements, which, assuming *how* for *that* is acceptable, makes the usage possible but conventional only in spoken registers. Yet, some verbs that students used take *that*-complements and *wh*-complements or only *wh*-complements; therefore, the

how-complement sounds grammatically correct after the verb used, but the meaning of the sentence is not in accordance with the standard dictionary definition of *how*. Finally, some verbs take neither *that*-complements nor *wh*-complements. In some of these constructions, *how* seems to function as *the fact/opinion that*, but the usage is not standard.

One possibility for these unconventional *how*-complements is that students do not understand what type of complements these verbs take or do not realize that all verbs do not take the same complement. Therefore, students likely need to be taught how to use these verbs rather than simply be given a list of common reporting verbs and be expected to use the verbs correctly. Another possibility is that, when writing, students are using the thesaurus function in word processors to vary the vocabulary used and are assuming that every synonym takes the same complement as the defined word.

The second pattern used by students consisted of *how*-complements functioning as a prepositional complement (V+Prep+*How*). In these sentences, *how* can be replaced by *the fact/opinion that*:

1. *The first point Surowiecki makes <u>is about how</u> low wages have become such a huge "political issue" because of the change in the people that used to be employed at these underpaid chain businesses.
    a. The first point Surowiecki makes <u>is about the fact that</u> low wages have become such a huge "political issue" because of the change in the people that used to be employed at these underpaid chain businesses.

2. *He also talks about how previously; ivory trade was legal and how that was ineffective and worsened the situation showing his audience that this mistake should not be recreated.
    a. He also talks about the fact/opinion that previously; ivory trade was legal and how that was ineffective and worsened the situation showing his audience that this mistake should not be recreated.

This pattern again suggests that students do not understand what complements follow these verbs. Students seem to be using *how* to replace *the fact that* in this construction as well because the manner, way, or process of the *how*-complement was never explained in the students' writing. In these sentences, the verbs may take the prepositions in the right semantic context; however, the prepositions only take *how*-complements in the context of discussing processes, and that is not the usage students have produced. Verbs used in V+Prep+*How* were *continue about, is about, is on, speak about, struggle with, talk about, think of,* and *write about*.

Frequency of Each Pattern in the Student Corpus

The second question of this study asked what the frequency of each pattern in the sample corpus of English 101 and English 102 essays was. Of the 78 instances of *how*-complements produced by students, 62.82% fall into the pattern V+*How*. This percentage accounts for all three categories discussed earlier: (1) the *how*-complement used as a *that*-construction, (2) the *how*-complement misused semantically, and (3) the *how*-complement misused semantically and syntactically. Each of these categories will be discussed and will be accompanied by tables. According to *Merriam-Webster Dictionary* and *The American Heritage Dictionary*, *how* and *that* are somewhat synonymous in

informal registers, but evidence shows that students are using *how* for *that* in academic registers as well, making such usage unconventional in academic writing. Those verbs that take *that*-complements (*explain*, *illustrate*, *learn*, *mention*, *note*, *point out*, *show*, and *state*) may not qualify as unconventional usages of *how*-complements in conversation, but they do qualify as unconventional in this study of academic writing. Table 6 provides the number of times each verb was used by students. It also provides the percentage of times the verb appears as a V+*How* pattern and in the student corpus overall:

Table 6

Frequency of V+How Verbs after which How functioned as That

Verb	Frequency of Verb	Percentage of V+*How* Pattern (%)	Percentage of Student Corpus (%)
explain	18	36.73	23.08
illustrate	1	2.04	1.28
learn	1	2.04	1.28
mention	2	4.08	2.56
note	1	2.04	1.28
point out[1]	1	2.04	1.28
show	6	12.24	7.69
state	2	4.08	2.56
Total	32	65.31	41.03

Explain and *show* were the most frequent verbs in the category. These constructions may be more frequent because they often form collocations with *how* that do refer to processes or explanations. However, student usage did not have the same meaning as these common collocations.

[1] *Point out* was used as a phrasal verb by students, which is why it is not part of the prepositional complement pattern.

Sentences in which *how*-complements function as *that*-complements account for 65.31% of the V+*How* category and 41.03% of the student corpus. This finding suggests that students are using *how* for *that*, and, therefore, standard dictionary definitions are accurate, but the acceptability of interchanging *how* for *that* in academic writing needs to be confirmed by corpus data.

Table 7 shows the frequency of verbs that do take a *wh*-complement, though not a *that*-complement, but the meaning of the sentence does not represent a process or imply *the way*; this is the pattern in which *how* is misused semantically. Of the total data, 12.82% consisted of students' misuse of *describe* or *discuss*:

Table 7

Frequency of V+How Verbs after which How was Misused Semantically

Verb	Frequency of Verb	Percentage of V+*How* Pattern (%)	Percentage of Student Corpus (%)
describe	3	6.12	3.85
discuss	7	14.29	8.97
Total	10	20.41	12.82

When students used *describe how* or *discuss how*, they were not implying a process. Instead, students may be using *how* to imply *the fact/opinion that*.

Finally, 8.97% of the total data were V+*How* constructions in which *how* was misused syntactically and semantically because the verbs take neither *that*-complements nor *wh*-complements (*address, cover, depict, detail, examine*). In these usages, students again seemed to use *how* to possibly mean *the fact/opinion that*, but the usage is not

consistently possible. The frequency of *how*-complements following these verbs are as shown in Table 8:

Table 8

Frequency of V+How Verbs after which How was Misused Semantically and Syntactically

Verb	Frequency of Verb	Percentage of V+*How* Pattern (%)	Percentage of Student Corpus (%)
address	3	6.12	3.85
cover	1	2.04	1.28
depict	1	2.04	1.28
detail	1	2.04	1.28
examine	1	2.04	1.28
Total	7	14.28	8.97

Some *how*-complements functioned as prepositional complements, the V+Prep+*How* pattern. In these constructions, *how* consistently seemed to mean *the fact/opinion that*. Table 9 shows the frequency of the *how*-complements that acted as prepositional complements. Of the 78 *how*-complements, 37.18% consisted of a verb, preposition, and prepositional complement beginning with *how*.

Evidence suggests that the most common pattern of the student essay corpus was V+*How*, but the most common specific construction overall was *talk about how*. This frequency indicates that teachers may help students by mentioning that *talk about how* is more typical of speech and should be replaced by another reporting verb such as *discuss*, or be followed by a traditional noun-construction, such as *the fact/opinion that*. Dictionary editors might want to consider expanding their definitions to include *the fact/opinion that* in their entries for *how*.

Table 9

Frequency of V+Prep+How

Verb+Prep	Frequency of Verb+Prep	Percentage of V+Prep+*How* Pattern (%)	Percentage of Student Corpus (%)
continue about	1	3.45	1.28
is about	3	10.34	2.83
is on	1	3.45	1.28
speak about	2	6.90	2.56
struggle with	1	3.45	1.28
talk about	19	61.29	17.92
think of	1	3.45	1.28
write about	1	3.45	1.28
Total	30	100	37.18

Frequency of Each Pattern in the Spoken and Academic COCA Registers

The third question of this study asked how often each pattern occurred in COCA academic written and spoken registers in 2015 to 2017. To confirm the ways that students were using *how*-complements, the verbs followed by *how* were searched in COCA. Of the V+*How* constructions used in student data, *detail*, *discuss*, *describe*, *explain*, *learn*, *mention*, and *show* were used prior to unconventional *how*-complements. In Table 10, the frequency of the verb followed by *how* is recorded, followed by the number of unconventional *how*-complements. Additionally, the percentage of unconventional *how*-complements for the verb search is recorded:

Table 10

Academic COCA Frequencies of V+How

Verb	Frequency of Verb+*How*	Frequency of Unconventional *How*-Complements	Percentage of Unconventional *How*-Complements for V+*How* Search (%)
detail how	19	5	26.32
discuss how	66	11	16.67
describe how	99	3	3.03
explain how	95	7	7.37
learn how	102	2	1.96
mention how	8	2	25.00
show how	100	7	7.00

Of the reporting verbs searched in the academic register of COCA, *explain*, *learn*, *mention*, and *show*, verbs that take both *that*-complements and *wh*-complements, showed evidence of *how*-complements used synonymously for *that* similar to those in the student data:

1. The professors do not explain how New York's delegation could be accused of violating their instructions by voting for the Constitution since New York cast no vote one way or the other.
2. Users then learn how their choice was like or unlike the decision Churchill actually made.
3. Styron mentions how Baldwin would sometimes go on the lecture circuit during his Connecticut stay, and "with his ferocious oratory, he began to scare his predominately well-to-do, well-meaning audience out of their pants" (" Jimmy " 96-7).

4. I show how nonfilmic materials, specifically a card catalogue/script in actuality film pioneer Salvador Toscano's archive, provide vital information for interpreting how he and others used the form to create cinematic monuments to the ongoing historical process of nation building.

While the searches of academic registers of COCA also showed evidence of *how*-complements following the reporting verbs *describe*, *discuss*, and *detail*, the constructions were not used unconventionally. *How* was being used to mean *the way*, which, as previously mentioned, is possible when the meaning of *the way* is accurate. Using *how* instead of *the way* may be considered unconventional by academic writing standards because the register prefers precise language, but this unconventional usage is not the focus of this study.

In Table 11, the frequency of reporting verbs followed by *how*-complements in spoken COCA register searches are compared with the number of constructions that are unconventional usages (usages in which *how* does not imply a process or *the way*):

Table 11

Spoken COCA Frequencies of V+How

Verb	Frequency of Verb+*How*	Frequency of Unconventional *How*-Complements	Percentage of Unconventional *How*-Complements for V+*How* Search (%)
describe how	40	3	7.5
detail how	13	6	46.15
explain how	66	1	1.52
point out how	3	1	33.33
show how	84	1	1.19

Spoken COCA searches of reporting verbs followed by *how*-complements revealed that *explain*, *point out*, and *show* (verbs that take both *that* and *wh*-complements) are followed by *how*-complements functioning as *that*-complements based on the surrounding texts' meaning:

1. He explains how conservation and respect for all living things has long been an intrinsic part of life here.
    a. He explains that conservation and respect for all living things has long been an intrinsic part of life here.
2. It just really points out how the paucity of research that we have.
    a. It just really points out that the paucity of research that we have.
3. To the south of the Citadel, the satellite pictures show how the urban landscape has been virtually flattened.
    a. To the south of the Citadel, the satellite pictures show that the urban landscape has been virtually flattened.

These results suggest that spoken COCA data confirm that *explain*, *point out*, and *show* all are taking unconventional *how*-complements that function as *that*-complements, and this construction occurs in spoken English.

However, *describe how* in spoken COCA results revealed that *how* was being misused semantically, at least according to *Collins Cobuild English Dictionary* (1999), because *describe* takes *wh*-complements but not *that*-complements, and a process or *the way* was not implied:

1. So the article describes how Steve Bannon and his brother Chris Bannon had actually created a film company together.

a. ?So the article describes the way Steve Bannon and his brother Chris Bannon had actually created a film company together.

This usage in the spoken COCA register may be a result of mistakes while speaking; moreover, because *describe how* was used in academic registers, speakers may be overgeneralizing the usage in spoken registers and misusing the construction semantically.

Additionally, *detail how* was misused semantically and syntactically in the spoken COCA register. According to *Collins Cobuild English Dictionary* (1999), *detail* takes neither *that*-complements nor *wh*-complements; therefore, the use of *how*-complements following *detail* is inaccurate both semantically and syntactically:

1. *The former FBI director, in a statement to the U.S. Senate, details how President Trump asked for his personal loyalty, asked to drop the investigation into Michael Flynn, and called Russia a cloud hanging over the presidency.

Academic COCA representations of *how*-complements functioning as unconventional prepositional complements were much more rare than *how*-complements acting as unconventional verb complements. In Table 12, the frequencies of V+Prep+*How* in the academic COCA register are compared. Only *is about, talk about,* and *write about* yielded results that contained unconventional *how*-complements:

Table 12

Academic COCA Frequencies of V+Prep+How

Verb+Prep	Frequency of Verb+*How*	Frequency of Unconventional *How*-Complements	Percentage of Unconventional *How*-Complements for V+*How* Search (%)
is about	3	2	66.67
talk about	16	4	25.00
write about	1	1	100.00

Academic COCA searches of reporting verbs followed by *how*-complements revealed that *is about*, *talk about*, and *write about* preceded *how*-complements functioning as *the fact/opinion that*; however, there were very few constructions in this register:

1. Another reading is about how these days another's pain is a commodity, and you can see that clearly in the end.
    a. Another reading is about the fact/opinion that these days another's pain is a commodity, and you can see that clearly in the end.
2. In the Special Issue, for example, Richard Edwards (Edwards, 2015), talks about how you can not have openness without also having closures.
    a. In the Special Issue, for example, Richard Edwards (Edwards, 2015), talks about the fact/opinion that you can not have openness without also having closures.

3. The scare tactics could have economic consequences -- it might affect our investment climate when international journalists constantly write about how Russia is threatening to invade, or how' Narva is next.
    a. The scare tactics could have economic consequences -- it might affect our investment climate when international journalists constantly write about the fact/opinion that Russia is threatening to invade, or how' Narva is next.

While there were very low frequencies of reporting verbs with unconventional prepositional *how*-complements in academic COCA searches, the spoken COCA searches revealed more atypical constructions like those constructions in the student corpus where the meaning of the sentence and those that followed did not imply a process or manner. In Table 13, the frequencies of V+Prep+*How* constructions in the spoken COCA register are compared. Only *is about, is on, talk about,* and *write about* showed evidence of unconventional *how*-complements:

Table 13

Spoken COCA Frequencies of V+Prep+How

Verb	Frequency of Verb+*How*	Frequency of Unconventional *How*-Complements	Percentage of Unconventional *How*-Complements for V+*How* Search (%)
is about	17	4	23.53
is on	2	1	50.00
talk about	192	33	17.19
write about	19	7	36.84

The *how*-complements that followed *is about*, *is on*, *talk about*, and *write about* were comparable to the constructions in the student corpus; *how* seems to be easily replaced by *the fact/opinion that*:

1. The novel is about how you know when it's time to flee and what it's like to become an immigrant in a country that's hostile to immigrants.
    a. The novel is about the fact/opinion that you know when it's time to flee and what it's like to become an immigrant in a country that's hostile to immigrants.
2. In fact, according to the story, the soldiers began to notice and talk about how he had been fixed in thought since dawn.
    a. In fact, according to the story, the soldiers began to notice and talk about the fact/opinion that he had been fixed in thought since dawn.

These usages suggest that the reason students use a construction such as *talks about how* may be because they do hear the construction, and thus it is seeping into students' academic writing. The usage seems to be prevalent, and dictionary editors should consider altering entries for *how* to include *the fact/opinion that*, especially for spoken registers.

Connection between the Student Corpus and COCA Registers

The final question of this study asked if the patterns found in student essays resembled the spoken or written academic register of COCA. Ultimately, the student corpus data examples of V+*How* and V+Prep+*How* resemble the spoken COCA register more than the academic register.

The usage of *how* for *that* has been considered unconventional in academic writing, but COCA searches showed that such usage does exist in the academic register for *explain* (7.37%), *learn* (1.96%), *mention* (25%), and *show* (7%). Although the low frequencies reported for *explain*, *learn*, and *show* are inconclusive, the higher frequency recorded for *mention* suggests that using this verb with *how* when it means *that* is permissible in academic writing. The student examples are similar to those found in the academic register of COCA, so they should not necessarily be considered errors, especially those with the verb *mention*. However, because the results are inconclusive for *explain, learn,* and *show*, students could benefit from knowing how to recast sentences that contain these V+*how*-complements.

Describe (7.5%) and *detail* (46.15%) both showed results of taking *how*-complements in academic COCA searches, but the usage meant *the way*, unlike examples in student data. While this usage was slightly unconventional because academic writing conventions value precise language, using *how* to mean *the way* is not entirely standard, but the usage is not applicable to this study.

The results of the spoken COCA data confirm that *explain* (1.52%), *point out* (33.33%), and *show* (1.19%) all are taking *how*-complements that function as *that* in conversation; however, this construction is only conventional when used for spoken registers. Using *how* for *that* is not yet standard in academic writing, but the evidence of the usage in academic COCA searches suggests that teachers should at least mention to advanced students that they might see this construction when they read academic material.

Additionally, in the spoken COCA search, *describe* took *how*-complements that were misused semantically (7.50%), like *describe* in academic COCA searches (3.03%), but in the spoken register, *the way* or a process was not implied. Therefore, this misusage, which had very low frequencies, may have been an error of overgeneralizing verbs and their complement patterns when speaking.

Detail took *how*-complements in spoken COCA searches frequently (46.15%), but *detail* does not take *that*-complements or *wh*-complements, according to *Collins Cobuild English Dictionary* (1999). Therefore, because this usage was more frequent in spoken searches than in academic searches, in which the usage was not unconventional, the spoken searches examples are errors, like those students made.

The reasons that *how* is being used unconventionally may be because students (1) do not know *that* is usually retained in academic writing and that *how* is used as *that* in conversation, (2) do not know how to separate conversational and academic language, or (3) are overgeneralizing thesaurus functions in word processors.

Students may not know that *that* is retained most often in academic contexts, as stated by Biber et al. (1999), and are therefore substituting *how* for *that* because they unconsciously know that a complementizer is needed, not knowing that *how* functioning as *that* is more common in spoken registers.

Additionally, students may be having difficulty separating academic and spoken verb complements and are, therefore, using *how* as *that* because the complementizer *that* can and is often omitted in informal conversation when the clause is brief and uncomplicated (Biber et al., 1999; Quirk et al., 1985). Academic COCA searches did show evidence of *explain how*, *learn how*, *mention how*, and *show how* as well as use of

is about, *talk about*, and *write about*, so use by students is not entirely unconventional, though maybe not widely accepted yet.

Finally, students may be misusing complementizers as a result of overusing the thesaurus function in word processors or as a result of interchanging reporting verbs and assuming that all reporting verbs take the same complementizer. It is because of this confusion that giving students lists of academic verbs is ineffective: Students need to understand how those verbs are used.

These problems are typical with verbs after which *how* is used to mean *that* or with prepositions after which *how* is used to mean *the fact/opinion that*, but these conclusions do not apply to *detail* and *describe*. *Detail* and *describe* are also taking *how*-complements, but in academic COCA searches, these constructions are used with the conventional meaning of a process or manner, and the constructions did not appear in spoken COCA searches. Therefore, the student usages of these verbs with a *how*-complement are errors.

Interestingly, while *talk about how* and *is about how* sound much more conversational, their frequencies were higher in academic COCA searches than in spoken searches. These results suggest that while students' writing matches that of COCA academic writing, the construction may need to be explicitly taught to students as an error because the meaning of the construction does not reflect the meaning of the sentences. Dictionary editors might even consider accounting for this new meaning of *the fact/opinion that* in editions given the frequency of the construction.

CHAPTER V

CONCLUSION

What prompted this study was that college-level composition students were having trouble using appropriate complement patterns with certain verbs. The difficulty resulted in students producing various unconventional sentences: (1) using *how* for *that*, (2) misusing *how* semantically, (3) misusing *how* semantically and syntactically, and (4) using *how* for *the fact/opinion that*. Although it is impossible to attribute the unconventional sentences to a single cause, lack of understanding of verb and preposition complement patterns, overuse of the thesaurus functions, and expectations and assumptions about academic language all seem to contribute to the reason that students use *how* unconventionally.

Students' misuse of complement patterns with reporting verbs shows that providing students with an academic word list or a list of reporting verbs that are common when summarizing or paraphrasing is not enough for students to understand how to correctly use the words in their own writing. Of the common reporting verbs listed by Quirk et al. (1985), only *state*, *explain*, *note*, *think*, and *write* were used in sentences in the student corpus. Students seem to overgeneralize what complements follow different verbs, possibly assuming that synonyms are followed by the same types of complements. Similarly, students may be misusing reporting verbs by overusing the thesaurus function in word processors, again assuming that synonyms all take the same type of complements. These assumptions result in unconventional *how*-complements.

One reason that students may be misusing *how* is that, according to *Collins Cobuild English Dictionary* (1999), *how* sometimes introduces a statement or fact, often

something someone remembers or expects other people to remember. Therefore, students may be using *how* specifically when summarizing and paraphrasing because they are assuming that the teacher remembers or knows the source information being presented. Additionally, *wh*-complements in which *how* is used as the complementizer generally imply a lack of certainty on the part of the speaker or writer (Biber et al., 1999). So when students use a *how*-complement, there is a semantic connotation that they are not entirely sure of the source information they are summarizing or paraphrasing.

Using *How* for *That*

One problem that students seem to have is separating academic and spoken conventions. Biber et al. (1999) point out that *that*-complements are common in reported speech and are most common in academic prose, but of the common verbs that take *that*-complements listed by Biber et al. (*think, say*, *know*, *see*, *find, believe*, *feel*, *show*, and *suggest*), only *show* was used in examples from the student corpus.

Contrasting the common academic usage of *that*-complements, *wh*-complements are more common in conversation than in academic writing (Biber et al., 1999). Therefore, students do not seem to understand that, even though *how* for *that* is acceptable in spoken registers, to use *how* as *that* in the academic register aligns their writing with the spoken register more than the academic. However, academic COCA searches proved that the use of *how* for *that* following verbs that take *that*-complements does occur after *explain*, *learn*, *mention*, and *show*, though the frequencies for all but *mention* were quite low and, therefore, inconclusive.

Ultimately, using *how* for *that* after verbs that take *that*-complements remains nonstandard in academic registers, making the examples in the student corpus errors, but

because using *how* for *that* accounted for 47.17% of the student corpus data, the usage is likely common among students and should be taught as an error until the change in usage is accepted in standard dictionaries and in academic registers.

Misusing *How* Semantically

Students misused *how* semantically after verbs that take *wh*-complements but not *that*-complements. Their sentences did not refer to a process. Academic COCA searches showed that a similar issue occurs after *describe* and *discuss*. However, in the academic register, the *how*-complement was used to mean *the way*.

In the case of misusing *how* semantically, student sentences most closely resembled spoken COCA search results, but only *describe* preceded unconventional *how*-complements in the spoken register. Therefore, student usage is probably an error because no usage of *how* after *describe* and *discuss* appeared that matched examples of student writing in the academic register.

Misusing *How* Semantically and Syntactically

Students misused *how* semantically and syntactically after *address*, *cover*, *depict*, *detail*, and *examine*, verbs that take neither *that*-complements nor *wh*-complements. Academic COCA searches resulted in similar constructions only after *detail*, but again, the *how*-complement was used to mean *the way*. While syntactically incorrect after *detail*, using *how* to mean *the way* is not unconventional. Furthermore, spoken COCA searches provided results of *how*-complements following *detail* like those of student data, making the student sentences in this case similar to those in the spoken register rather than those in the academic register, so the usage is an error when used in academic papers. Because

the usage only showed results for *detail* and not the other verbs used by students, such usage is likely a mistake rather than an error.

Using *How* for *The Fact/Opinion That*

Students used *how*-complements functioning as prepositional complements to mean *the fact/opinion that* consistently after reporting verbs, most frequently after *talk about*. Academic COCA searches showed that prepositional *how*-complements meaning *the fact/opinion that* followed *is about*, *talk about*, and *write about*, though the frequencies were incredibly low, and, therefore, inconclusive. However, spoken COCA searches showed evidence of prepositional *how*-complements following *is about*, *is on*, *talk about*, and *write about*. Accordingly, student sentences more closely resemble the spoken register because frequencies of the constructions were higher than those of the academic register. Yet *talk about how* was the most frequently occurring construction in the student corpus overall. Therefore, while the usage may be an error because academic COCA searches did not substantially prove that the usage is permissible in the register, it is so common that students likely need to be taught the construction as an error.

Future Research and Implications of the Study

For this study, the *Collins Cobuild English Dictionary* (1999) was used because it provides detailed information about complement patterns that are not available in the most updated version and because these patterns are based on authentic data. The more recent dictionaries do not provide the same detailed explanation about what complements follow verbs; however, for future research, a more detailed study of the similarities and inconsistencies between dictionaries and usage dictionaries would be a valuable addition.

The types of papers that students wrote and were used in this study align with Lunsford and Lunsford's (2008) claim and information presented in the updated CWPA (2014) that research and argumentation that incorporates source information is the focus of current first-year composition classes. As a result, students are using summarizing and paraphrasing writing conventions to convey source information now more than ever. For further research, determining the frequency of unconventional *how*-complements per paper and comparing the frequency of constructions against the length of the papers would help to confirm that Lunsford and Lunsford (2008) were correct that essays are longer than before and that longer papers equate to more errors and would even help to show how frequent of an error *how*-complements are in academic writing.

While the constructions that were the focus of this study are errors in the context of academic writing, learning the use of *how* for *that* can still be useful in a grammar class, especially for ELLs that are learning the conventions of writing and speech. For ELLs whose goal is to sound native-like, using *how* as *that* in speech will help, whereas those whose goal is to integrate into academia, learning to retain *that* will help them with their writing.

Understanding these constructions of *how* for *that*, misusing *how* whether semantically, syntactically, or both, and using *how* for *the fact/opinion that* are important topics for teachers working both in native-speaker and ELL classrooms. Hopefully, the insights of this study will inform instructors' ability to understand errors in student papers and explain how to fix them more clearly and easily.

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