

THE EFFECTIVENESS OF COGNITIVE GRAMMAR AND TRADITIONAL
GRAMMAR IN L1 PEDAGOGY: AN EMPIRICAL TEST

by

Phillip Hamrick

Submitted in Partial Fulfillment of the Requirements
for the Degree of
Master of Arts
in the
English
Program

YOUNGSTOWN STATE UNIVERSITY

May 2008

The Effectiveness of Cognitive Grammar and Traditional Grammar in L1 Pedagogy:
An Empirical Test

Phillip Hamrick

I hereby release this thesis to the public. I understand that this thesis will be made available from the OhioLINK ETD Center and the Maag Library Circulation Desk for public access. I also authorize the University or other individuals to make copies of this thesis as needed for scholarly research.

Signature:

Phillip Hamrick, Student May 2008

Approvals:

Steven Brown, Thesis Advisor May 2008

Salvatore Attardo, Committee Member May 2008

Kevin Ball, Committee Member May 2008

Peter J. Kasvinsky, Dean of Graduate Studies May 2008

ABSTRACT

This thesis adds to the field of Applied Cognitive Linguistics by testing empirically the effectiveness of Cognitive Grammar L1 pedagogy (particularly with English and/or composition classrooms). Using the cognitive linguistics theory of boundedness, which explains both the count/mass distinction and the perfective and progressive tenses, students are given either Traditional Grammar instruction or Cognitive Grammar instruction and are then tested on explicit measures. Their performance is gauged by multiple comparisons over a period of several weeks. Moreover, these models of instruction are built within the framework of the grammar mini-lesson supported by Calkins (1986) and Weaver (1996). Hence, both are in line with current thinking about the role of grammar in the composition classroom. This thesis does not make the case for teaching grammar, but instead makes the case for the use of Cognitive Grammar pedagogy over Traditional Grammar pedagogy. That is, if grammar is taught at all, the cognitive method should be used.

Acknowledgements

I would like to acknowledge everyone who made the research reported in this thesis possible. I would first like to thank my advisors. Thanks to Dr. Steven Brown for his unwavering support, input, and willingness to read every single scrap of paper I stuck in front of him. He listened patiently while I tried (poorly) to articulate good ideas and even more patiently while I successfully articulated bad ones. He reassured me because he knew I needed reassurance—all the time. Most importantly, he never let college get in the way of my learning—yes, that is a compliment. Thanks also to Dr. Salvatore Attardo, who could have left me behind entirely when he took up work at Texas A&M University, Commerce. He recognized quickly that when pushed, I push back. Since discovering this, he has never stopped pushing: Thank you. Thanks to Dr. Kevin Ball as well, who, in his openness and respect of students' thoughts encouraged me to be comfortable in asserting my ideas in an academic forum.

Thanks also goes out to my colleagues for their assistance in my research. Attilio D'Agresti, Laura Cuppone, Kelly Murphy, Nick Novosel, and Bret Bowers have all, at one time or another, either lent me their students or a critical eye, and have helped me in the formulation of this thesis. The process of building a model for Cognitive Grammar pedagogy has been a long one, and it is still going. Thanks to all those at the 2008 LAUD Symposium in Landau, Germany who supported the work I am doing.

I would also like to thank Michael Sandison and Marcus Eoin for giving me the workspace I needed in order to finish this thesis. Likewise, thanks are

necessary to Ardal O’Hanlon for giving me a way out when I needed a break from my research.

Finally, I want to thank my wife, Jennifer Johnstone, for her innumerable contributions to the success of this thesis, which include but are not limited to: reading/offering suggestions for multiple versions of the draft (before I’d let Dr. Brown see it); giving feedback after many long-winded “talks” after several beers (usually Guinness, a company which, too, probably deserves its own special place in these acknowledgments), charts, and graphs; and generally listening when I talk about Cognitive Linguistics—which I do, often and at-length. *De nobis fabula narratur.*

Alas, there are far too many to thank. And while I’m grateful and wishy-washy enough to spend a whole evening thanking the likes of Samuel Beckett and Richard Dawkins, I shan’t. Everyone deserves more thanks than I can possibly deliver, and acknowledging that I have said too little may just qualify as having said enough.

It should be noted, of course, any short-comings or faults in this text are all my own, as are all opinions reflected in the text.

For Adanna, who showed me how to love language all over again.

Table of Contents

Acknowledgements	iv
1. Introduction	1
2. Literature Review	4
2.1. A brief history of grammar and grammar pedagogy	5
2.2. Grammar in the Classroom	8
2.2.1. What kind of grammar?	8
2.2.2. Why we teach grammar	14
2.2.3. The problem with grammar	15
2.2.3.1. Previous studies on grammar and writing	15
2.2.3.2. Some criticism of previous studies	17
2.2.3.3. Age and grammar instruction	18
2.2.3.4. Motivational issues in grammar instruction	19
2.2.4. Returning to grammar instruction	19
2.3. Cognitive Grammar	22
2.3.1. Note on CL approaches to pedagogy	24
2.3.2. Boundedness	29
3. Pilot Study	34
3.1. Count/mass in CG and Traditional Grammar	34
3.2. Methodology	35
3.2.1. Participants	35
3.2.2. Procedure materials	35
3.2.3. Pre-tests	37
3.2.4. Post-tests	37
3.2.5. Questionnaires	38
3.3. Results	38
3.3.1. Pre-tests	38
3.3.2. Post-tests	39
3.3.3. Questionnaires	41
3.4. Conclusion	45
4. Methodology	48
4.1. Participants	48
4.2. Materials	49
4.3. Procedure	50
4.3.1. Pre-tests	50
4.3.2. Post-tests	51
4.3.3. Follow-up tests (delayed post-tests)	52

5. Results	53
5.1. Pre-test results for Experiment Groups A and B	53
5.2. Overall post-test results from Experiment Groups A and B	55
5.3. The present perfect anomaly	58
6. Discussion	60
6.1. Pre-test Experiment Groups A and B	60
6.2. Overall results	62
6.3. The case of the present perfect	63
6.4. How the grammar tests “mean”	64
6.5. Future research	65
7. Conclusion	68
Appendix	71
References	76

1. Introduction

In the last fifty years or so, grammar's place in the curriculum has been debated and detested. Some teachers still accept grammar as *the* central method of language instruction, while others see it as a waste of time. In public and private K-12 schools, grammar instruction often persists in Traditional Grammar pedagogy. In the university, some instructors espouse the need to further instill their students with grammar, often going so far as to say that "students didn't get enough in high school." On the other hand, just as many instructors argue that grammar instruction is useless. In spite of this polemic, grammar's value within pedagogy is not the matter at hand. Instead, I want to look at grammar instruction as it is taught, or should I say, *when* it is taught. It needs to be understood from the start that in spite of all the research on the problems of grammar instruction, grammar is still being taught—for various reasons. What is needed, then, is a new approach.

If grammar is going to be taught, it needs to be maximally effective. It is hypothesized by some (myself included) that grammar instruction is more effective when rooted in the framework provided by Cognitive Grammar than when based on Traditional Grammar. Indeed, this is the hypothesis underlying the research carried out in the process of constructing this thesis.

The research reported here examines two experiments that deal with teaching grammar to college students. In particular, the experiments are a part of

an investigation into the effectiveness of applying Cognitive Linguistics (CL) and Cognitive Grammar (CG) to L1 language pedagogy. In order to gauge the effectiveness of the CL/CG approach adopted here, comparisons are made with Traditional Grammar instruction. The experiments reported here tested two grammatical features: the count/mass distinction and the perfective aspect/tense. These two focus areas were used because they both belong to the larger theory of boundedness in CL and CG. Boundedness refers to whether or not an entity or process (noun or verb, for example) has inherent boundaries.

The general hypothesis underlying the research presented here is that students with instruction on CL/CG approaches to certain grammar features will outperform students with instruction based in Traditional Grammar. Before “outperform” is misconstrued, I would like to first offer a bit of a disclaimer.

I am aware of the fact that grammar instruction has long been deemed both ineffective and harmful for learners, particularly when substituted for writing instruction—or when it is confused as writing instruction itself! While I do have an opinion as to the merit of the studies that are the foundation of anti-grammar sentiment, it is not my goal here to become involved in a polemic. Therefore, let me be very clear from the beginning about the goal of this research. The purpose here is not to establish grammar instruction in L1 as a way of improving writing—that was not even tested. Instead, the CL/CG pedagogical model of grammar instruction supplied here is meant only for those instructors who already have a place for grammar instruction within their curriculum. Moreover, the instructional method used was based on the mini-

lesson (see Calkins 1986 and Weaver 1996 and 2.2.4 of this text). Thus, it is in line with the recent trends in the composition research that still supports some grammar instruction.

Hence, when I say “outperform” I am referring to performance on explicit grammar instruction measures of skill, i.e. tests.

The breakdown of this thesis is as follows. In Chapter 2, I will introduce and review the literature on grammar and grammar instruction. Attention will be given to previous approaches to grammar instruction in order to provide a context for the experiments reported in later chapters. From there I will proceed to the pilot study, Chapter 3, which involved experimenting with the count/mass distinction. There I will outline the methodology used in the pilot study, the results of the experiment and discuss the merits and drawbacks of the model used. In Chapter 4, the methodology for the main study (on the perfect and progressive tenses) will be handled. Chapter 5 reports on the results of the CG/Traditional Grammar instruction experiments. In Chapter 6, a lengthy discussion on the results and methodology will be given. Particular attention will be paid to the interpretation of the results and to future modifications to the CG instruction model. Finally, the concluding chapter will deal with restating and highlighting the significant findings and suggestions for further research.

2. Literature Review

This section provides a review of the major movements and contributions to the study of pedagogical and theoretical grammar. There will be a brief history of grammar followed by a more in-depth look at grammar and composition, particularly the last five decades of research. The literature review will conclude, then, with a review of CG, in which some of its central tenets are explained.

Considerations of the history and “lineage” of grammar will be discussed in order to highlight the relevant similarities of grammar then and now. The goal, here, will be essentially to outline “where we have been” with grammar studies.

Then, the subject of grammar and composition will be broached. Although this matter fundamentally belongs to the history of grammar as well, it is of such centrality to this thesis that it cannot be treated with the same brevity. The section on grammar and composition will look primarily at the last half-century of scholarship as it has been the most active period of debate within grammar. Of course, the polemics of pro-grammarians and anti-grammarians will be discussed, in addition to grammar versus usage, and other problems in the field.

Finally, the field of CG will be examined, with particular focus on its tenets and pedagogical applications. Attention will also be given to how CG,

which is semantic, is unique from other grammar—in particular, from Traditional Grammar. There will also be a thorough look at the CG notion of *boundedness* as it applies to temporal (verb tense and aspect) and spatial (count/mass distinction) domains.

2.1. A brief history of grammar and grammar pedagogy

The origins of grammar in the Western world can be traced to the Sophists of Ancient Greece. Their interest in their language was largely for rhetorical reasons, e.g., persuasion. This study of language for practical purposes is strikingly similar to the proposed rhetorical grammars of recent times (cf. Kolln 1981; Sanborn 1986; Noguchi 1991; Blakesly 1995). Likewise, the metalanguage invented two millennia ago has not much changed in the time since (Brown and Attardo 2005: 323). If anything, the lack of change demonstrates that change in the field of grammar is an incredibly slow process. This should be taken into account when considering the realities of influencing and/or altering modern grammar pedagogy. This is not intended to sound pessimistic, but instead it is intended as a realistic reminder about the nature of the task.

The recent re-emergence of a rhetorical grammar in Kolln (1981) and others is not the only restatement of a much earlier idea. With the Sophists and the Greeks came the language theories of Plato and Aristotle. Plato's distinction between *fusei* and *thesei* (nature and convention, respectively) is echoed in Saussure's linguistic sign. Moreover, Plato offers the *onoma* and *rhema*, (noun

and verb, respectively). Brown and Attardo (2005: 324) point out that Aristotle distinguishes several “semantic classes.” These semantic classes are similar to what we still see today, e.g. Aristotle used “quality” to mean adjective. Finally, there was Dionysius Thrax, who introduced the eight parts of speech in the first century BC. His *Tekne Grammatik (Art of Grammar)* was “essentially the model that is still used in normative [prescriptive] grammar” (Brown and Attardo 2005: 325).

With little change in grammar into the Renaissance and the Enlightenment, we now encounter the birth of descriptions of English grammar. English grammar came into dominance in the 18th century. It was largely prescriptivist in nature. Howatt (1984: 5) gives an example of such prescriptivism found in Joseph Priestley’s *Rudiments of English Grammar* (1761), whose first definition of English grammar is worth reprinting here:

Q *What is Grammar?*

A *Grammar is the art of using words properly.*

Priestly was not the only one working on prescriptive grammars. During this period, Robert Lowth’s grammar (1762) and Lindsey Murray’s *English Grammar* (1795) helped establish prescriptive grammar.

Moving ahead into the 19th century, there is a shift into a more scientific view of language and grammar. Then, in 1916, Ferdinand de Saussure’s *Course in General Linguistics* radically altered the field. His work gave way to

structuralism, which de-emphasized meaning. Instead, structuralists largely examined the relationships that form language, i.e. distributional grammar.

Despite the efforts of Saussure and many other modern linguists to reject prescriptive grammar, it is still the predominant form of pedagogical grammar. While the last century has seen great strides in the scientific views of language (from Chomsky's Generative Grammar to Neurolinguistics), the prescriptivist account of English grammar—firmly rooted in the 1st century B.C.E.—persists as the most well-known and most often taught form of grammar.

If anything, the history of grammar shows that change is slow and that there are not too many new ways of looking at things. Recent scholarship has made significant improvements in understanding language, culture, and the brain, yet our understanding of the grammar of English is still largely influenced by the likes of Robert Lowth and Joseph Priestley. While linguists are usually the first to admit that prescriptive grammar is problematic and scientifically unsound, they are not alone in criticizing it. In the last few decades scholars with pedagogical interests in grammar and the teaching of language have come forward, many looking to do away with prescriptive grammar and all its faults. But are they throwing the bucket out with the water? In an attempt to rid themselves of pedagogical grammar, many scholars are rejecting the whole business of grammar in the classroom. This is the focus of the next section.

2.2. Grammar in the Classroom

With the study of grammar being a 2,500 year-old enterprise, one might not expect a fifty-year span of time to be all that fruitful in terms of altering the scope and field of activity. Yet, that is precisely what has happened in the last fifty years. Beginning in the late 1950s and extending into the present, the role of grammar (be it for rhetorical persuasion or learning the “art of using words properly”) has been significantly diminished and devalued.

2.2.1. What kind of grammar?

Before we delve into why the role of grammar has been diminished and devalued we first need to look at what kind of grammar we are talking about. Grammar in the classroom can take many forms. Consider a teacher saying the following: “Barely grazing the surface of the water, the seagull flew back up into the air. *Barely grazing the surface of the water* is what kind of clause in that sentence?” Of course, the answer is *nonfinite clause*, but, more importantly, the answer to the question is descriptive. That is, in this case the teacher is descriptively teaching grammar. If that teacher were to say, “Don’t end a sentence in a preposition,” however, that would be prescriptively teaching grammar. That is, the teacher is assigning arbitrary rules and judgments of right and wrong to language use. Hence, a descriptive grammar sticks to facts about the language, whereas prescriptive grammar concerns itself with assigned degrees of

correctness. Both are often used, somewhat interchangeably, in the instruction of *formal grammar*.

Weaver (1996: 7) defines formal grammar as the teaching system which concentrates on “sentence elements and structure, usage, sentence revision, and punctuation and mechanics via a grammar book or workbook, or perhaps a computer...usually in isolation from writing.” Weaver appears to be operating on the assumption that grammar *should* be taught in the context of writing.

However, Weaver’s is not the only definition of *formal grammar* available. In theoretical linguistics, formal grammar refers to generative rules for transformations. Consider Tomlin (1994) who posits that formal grammars are “shorthand” translations of linguistic grammars. That is, formal grammars are simpler and more “straightforward” versions of the descriptive linguistic grammar. In this paper, I will use *formal grammar* to refer to both of the above, but let me be more specific as to my own definition: A *formal grammar* is a grammar that has been made more accessible for students and is taught in isolation to some extent.

Formal, prescriptive, and descriptive grammars can all be *pedagogical grammars* (although descriptive grammar often is not pedagogical, but instead a part of the field of linguistics). The key distinction I will make is that a pedagogical grammar is identical to a formal grammar except for the rigid isolation facet. That is, it is perfectly reasonable to have a grammar for instruction that can be included into various sorts of other studies, such as

poetics, literature studies, rhetoric and composition, to name a few. Therefore, a pedagogical grammar might be a formal grammar, but isolation is *not* necessary.

These distinctions are made here because there is much debate over grammar instruction in the classroom and it is important to pin down the terms for clarity. This way, if I were to assert that I was in favor of a descriptive non-isolated pedagogical grammar, it could not be confused with classic prescriptivist grammar because I used too general a term. The need for clarity on the subject is not without precedent. Consider these two definitions of grammar from Odlin (1994) and Hartwell (1985).

Odlin posits a four-fold grammar definition in terms that are wholly familiar: *prescriptive*, *descriptive*, *internalized*, and *axiomatic*. Summarized here are his definitions:

(1) *Grammar as prescription* – Usage, good and bad forms, etc., archaic rules, rules from other languages poorly applied, “standard”

(2) *Grammar as description* – “Linguistic grammar,” descriptions of syntax, semantics, morphology, phonology, etc., “standard” and “nonstandard”

(3) *Grammar as an internalized system* – “Competence”

(4) *Grammar as an axiomatic system* – Axioms and symbolic logic used to formulate rules that describe grammatical structure.

Definitions (1), (2), and (4) constitute the Standard English pedagogical grammar. Traditionally, that is, when grammar has been taught in the US, it has been taught in accordance with (1), (2), and (4)—particularly, (1).

For the sake of comparison, consider the five-point list of grammars given in Hartwell (1985) (cf. Francis (1954), which is largely the inspiration for Hartwell's list):

Grammar 1 – uses Kolln's definition of “the internalized system of rules that speakers of a language share” (Hartwell 1985: 111; Kolln 1981: 140)

Grammar 2 – scientific, descriptive grammars that “approximate the rules of schemata of grammar 1” (Hartwell 1985: 140)

Grammar 3 – linguistic etiquette

Grammar 4 – “Rules” of “common school grammars”

Grammar 5 – Stylistic grammar (cf. *rhetorical grammar*)

Hartwell's grammars 3 and 4 are essentially Odlin's prescriptive grammar.

Grammar 1 is Odlin's internalized grammar (competence). Between Hartwell

and Odlin, therefore, there is agreement on at least three types of grammar:

Prescriptive grammar – Hartwell: 3, 4; Odlin 1

Descriptive grammar – Hartwell 2; Odlin 2

Grammar competence – Hartwell 1; Odlin 3

While this allows some definitions to be pinned-down, a problem remains. Much of the work on grammar pedagogy has not been consistent in its use of terminology. Thus, the confusion of different meanings added to the already polemical nature of grammar pedagogy makes for a messy body of research. With that in mind, it will be stated here clearly what terms I am using and what they mean.

- Linguistic grammar: a scientific description of the language which makes hypotheses about the “rules” which govern grammatical tendencies
- Descriptive grammar: a linguistic grammar focusing exclusively on description
- Prescriptive grammar: a grammar that emphasizes socially-assigned notions of correctness and incorrectness in language usage
- Pedagogical grammar: a grammar for the purpose of instruction
- Formal grammar: a grammar taught in isolation

Similarly, there have been problems distinguishing between grammar and usage. Many grammarians take exception to the word “grammar” being applied to prescriptive instruction. These grammarians feel that grammar is a scientific endeavor, in which prescriptive rules have no place. Shuman (1995: 115) articulates the problem: “Writing is grammatically deficient if it contains sentences like, ‘He to the market yesterday down the street went.’” Whereas, *He go to the market* is a violation of “standard” English, but is perfectly grammatical

in African American Vernacular English (AAVE). Hence, we need to distinguish between grammar and usage.

Grammar and usage need to be distinguished if we are to offer a clear pedagogical grammar. Sanborn (1986: 79) argues that “Him and me” is grammatical since it occurs regularly in language. Sanborn is arguing for the above defined Linguistic and Descriptive grammars because those grammars would identify the function of grammar in interaction of people in varying social statuses. He says that grammar and usage should be “taught within the perspective of power, as learning that will give students more options as an adult rather than as a form of judgment on the student, it’s a valuable school activity” (79). In short, an understanding of usage can prepare students to better navigate linguistic problems that might arise with different social factors. What Sanborn advocates invites us to question the *function* of grammar instruction. His view would seem to support instruction on code-switching (and there is certainly merit in this). Similarly, newer approaches to pedagogical grammar in both L1 and L2 radically alter traditional views on grammar instruction. CG, for example, allows significant deviation from standard language use for the sake of construal and creativity. By construal and creativity, I am referring to the ability of the speaker to manipulate the language to very unique extents and still be perfectly understood. Yet, such a radical view on pedagogical grammar has yet to take hold. To understand this, we need to look at the problem grammar instruction poses.

2.2.2. *Why we teach grammar*

There are numerous arguments for teaching grammar, but no one clearly articulates a single reason why grammar instruction is so necessary that we cannot do without it. However, there are some suggestions as to why we persist in teaching grammar anyway. McQuade (1980: 26) articulates his understanding of this persistence as follows:

First, there is tradition. I learned grammar in school, and the mere fact that I am now a teacher of English is evidence, I hope, that I learned grammar successfully. Grammar seems useful; I am proud of my mastery...Second, there is pressure from others, from parents, administrators, other teachers—particularly teachers of foreign languages—and even from students, who hate grammar yet also are afraid of missing something everyone else thinks is important. Third, there is arrogance. All those teachers in all those research studies, perhaps, just did not do as good a job as I can. This arrogance is supported by shamelessly biased observation; some students, after all, get A's on grammar tests, and it seems that the same students also write beautiful essays. Fourth, there is guilt. If I do not teach grammar—good Lord, what will become of my forsaken students?

McQuade was specifying what I'll call “the grammar habit,”—the underlying “needs” behind instructors' inability to not teach Traditional Grammar. This habit is reinforced by bureaucracy, arrogance (to use McQuade's term), and misguided notions of the role of grammar. However, his reasons are nothing to do with the study of language. He never mentions *bona fide* academic reasoning.

That is, he never mentions the role of teaching grammar, say, for students to better understand syntax revision or morphological decisions. The “grammar habit” is tough to break, as McQuade points out, and even though it persists for pedagogically unsound reasons does not necessarily mean it has to fail pedagogically.

Making a similar claim is Celce-Murcia (1991), who argues for grammar instruction on the grounds that it is worth teaching at least because it makes students more aware of language. Grammar instruction “helps learners to monitor or become more aware of the forms they use” (461). Of course, this is regardless of whether or not the students choose to then use the things they have learned. But is the failure of students to apply grammar knowledge to their writing the fault of the grammar, the pedagogy, or the students?

2.2.3. The problem with grammar

2.2.3.1. Previous studies on grammar and writing

Braddock et al. (1963) is arguably the most important research on the matter of grammar instruction in the writing classroom. Their conclusion is perhaps the most cited in the research on grammar and composition (37-38):

In view of the widespread agreement of research studies based upon many types of students and teachers, the conclusion can be stated in strong and

unqualified terms: the teaching of formal grammar has a negligible or, because it usually displaces some instruction and practice in actual composition, even a harmful effect on the improvement of writing.

So definite was the language and judgment in Braddock et al.'s conclusion, that for the next twenty years anti-grammarians merely needed to echo the "strong and unqualified terms" of that indictment (cf. Emig 1980; Memering 1980; Hartwell 1985; Hillocks 1986). However, even before Braddock et al.'s study, Greene (1950) posits the same conclusion, *viz.*, there is no relation between knowledge of grammar and application of that knowledge to writing.

Similarly, Segal & Barr (1926), Symonds (1931), and Harris (1962) all show that, as Memering (1978: 559) argues, "If we know anything at all about composition, we know that students can't be 'grammared' into being better writers." Symonds (1931: 94) concludes that it is not beneficial for children to study grammar usage.

Macauley (1947), Elley et al. (1976), and McQuade (1980) all offer more empirical research on grammar and composition. They are widely cited as part of the mounting evidence against teaching grammar. Weaver (1996: 23) gives much attention to their results, and summarizes their conclusions: "[the studies] indicate that there is little pragmatic justification for systematically teaching a descriptive or explanatory grammar of the language." Weaver's criticism of descriptive grammar instruction goes beyond most criticism of grammar instruction, which is normally targeted at prescriptive grammar. She cites

problems in prescriptive grammar, descriptive grammar, “traditional, structural, transformational, or any other kind” (23).

Macauley (1947), Elley et al. (1976), and McQuade (1980) are not without flaws—particularly McQuade (1980). McQuade’s students performed worse on post-tests after having been instructed with grammar than on pre-tests, before any instruction. McQuade is cognizant of the methodological flaws of his experiments, though. He acknowledges that he was not scientifically rigorous with his controls. (28-29)

2.2.3.2. Some criticism of previous studies

The biggest critic of anti-grammarians studies is Kolln (1981). She notes that some of Memering’s (1978) conclusions are fallacious because they are based on faulty research. For instance, Memering cites Symonds’ (1931) empirical findings, but Kolln (1981: 145) notes of Symonds’ research:

[Students] chanted right and wrong sentences aloud, in unison: ‘The boy was most killed by an automobile’ is wrong; ‘The boy was almost killed by an automobile’ is right. ‘My baby brother is most two years old’ is wrong; ‘My baby brother is almost two years old’ is right ([Symonds] p.84). Another group practiced correct constructions by filling in blanks; two others combined methods. To evaluate these so-called ‘teaching methods,’ Symonds administered the same forty-item test at the end of the experiment. We surely aren’t surprised at his conclusion.

While Kolln is not surprised with Symonds' findings, she is surprised "that Memering and others can seriously consider such research as proof that grammar study has no positive effect on composition" (145). More than twenty years earlier, DeBoer (1959) offered a similar critique. DeBoer argued that "a close examination of some of the reports of investigations of the effectiveness of grammar instruction might reveal flaws in research design of conclusions not fully warranted by the evidence" (417).

2.2.3.3. Age and grammar instruction

Grammar instruction has also been criticized for being taught too early in education. Most studies on grammar and composition (Macauley 1947; Mellon 1975; Elley et al. 1976; McQuade 1980; Hillocks 1986) examine K-12 students (5 years old to 18 years old). Mellon (1975: 32) posits that "there seems to be little reason to continue to give students in grades five through seven the especially large doses of error-correcting practice they typically receive." Hillocks (1986) concurs and adds that studies have shown that "at least certain aspects of correctness [in grammar usage] may be developmental, at least in young children;" this means "that grammar and mechanics may only be useful to writers as they are ready for it" (225). If this is the case, one wonders about the reliability of research on younger students on grammar and writing. If cognitive or biological factors preclude successful learning and application of grammar, then we can hardly fault grammar pedagogy for failing to be effective in the case of "under-developed" students.

2.2.3.4. Motivational issues in grammar instruction

Another criticism leveled at grammar instruction concerns motivation. Let's face it, grammar has a reputation of being boring. Weaver (1996: 103) argues that grammar is boring, so "they [the students] do not really learn it. They may go through the motions of completing grammar exercises and tests in such a way that they appear to have learned the concepts." This point is weakened tremendously by subjectivity, for surely the same could be said of any subject. Crucially, this may or may not be the fault of grammar, but instead could be the result of poor instruction methods. This is not to blame teachers entirely for the failures of grammar instruction. Although the fact is that grammar is often taught incorrectly (sometimes teachers just do not have a grasp on what they teach) and illogically (teaching grammar in isolation and/or using extensive lists of exceptions to rules). Regardless of who is at fault, motivational issues have been important in previous research; however, nothing this author is aware of has been suggested as a definitive measure in improving student motivation.

2.2.4. Returning to grammar instruction

In recent years there has been a reluctant re-integration of some grammar instruction. Yet, the issue of *how* to teach grammar in a post-Braddock et al. educational system is widely debated. Less-is-more seems to be the common theme, especially in Noguchi (1991) and Weaver (1996).

Weaver proposes the mini-lesson as the new prescribed form of grammar instruction. The mini-lesson was originally introduced by Lucy Calkins (1986). Weaver (1996) offers a model for a grammar mini-lesson based on the following guidelines:

1. Brief—the lessons should be no more than five or ten minutes.
2. Direct explanation in the form of quick tips.
3. Presented to the whole class when *several* students will benefit.
4. Absorption of data may not be immediate.
5. Can be taught to whole class, small group, or individual.
6. No follow-up exercises.
7. Mini-lessons must fit the need and readiness of the students.
8. Teachers should decide when the mini-lessons are needed.

A related set of guidelines are found in DeBeaugrande (1984), who criticizes grammars as being inaccessible and lays out qualifications for how grammar should be instructed. These qualifications are that pedagogical grammar should be (1) *accurate*, (2) *workable*, (3), *economical*, (4) *compact*, (5) *operational*, and (6) *immediate*.

The experiments on the effectiveness of CG and Traditional Grammar reported in the main sections of this thesis employed much of DeBeaugrande and Weaver's guidelines for accessibility and brevity.

In addition to the mini-lesson, many writing instructors have turned to “error-analysis.” Mullin (1995) notes that error-analysis promotes student independence in evaluating and correcting their own errors, often from a handbook. While the intention is good, promoting student independence, the “handbook policies” get abused. Mullin argues that many teachers’ error-analysis approach is to direct their students to handbooks the students do not even understand how, why, or when to use. She equates such instructional policies to the “directive that students should look up words they can’t spell” (111). These policies often lead to students’ poor performance on error-analysis. The students’ failures to perform with such poor guidance from their instructors bear similarities to grammar instruction that, too, has been poorly instructed.

Whether or not we should teach grammar is often the way the argument is framed. Weaver (1979, 1996) poses a different (rhetorical) question: *When should we teach grammar?* Of course, the answer is that the instructor must be capable of making a sound decision on when to teach grammar. Liu and Master (2003: 1) emphasize the need for this capability: “teachers who possess a solid command of grammar are better prepared to meet their students’ learning needs than those who do not.” In other words, in order “[t]o make decisions about the grammar to teach in composition classes and to include in composition materials...teachers and materials writers need to know as much as possible about grammar” (Byrd 1998: 54). In this way of thinking, formal grammar instruction should be given particularly to students studying to become English teachers (cf. Cray 2004).

2.3. Cognitive Grammar

Originating from the broader enterprise of Cognitive Linguistics (CL), Cognitive Grammar (CG) has several tenets that separate it from other grammars. Of these, we are concerned with three central tenets: Grammar is symbolic; Syntax and semantics are inextricably linked; and Grammar reflects embodied human experience.

A linguistic symbol, in the CG sense, is constituted by a semantic structure and a phonological structure, and one of these structures “is able to evoke the other.” (Langacker 2008: 5) Hence, if I say the word *pigeon*, provided the hearer knows what a pigeon is, the hearer can mentally picture a pigeon and immediately access information about pigeons. The reverse is true as well. Seeing a pigeon will evoke the word (if I know that word). To say, then, that grammar is symbolic means that grammatical constructs (such as verb, nonfinite clause, etc.) have some degree of symbolic meaning. Moreover, there is a gradation in the abstractness of meaning from symbolic meaning in lexical items, which tend to be rich in semantic content, to symbolic meaning in grammar, which is more schematic and tends to have a somewhat more fixed abstract meaning. That is, words are generally rich in meaning; however, some words, like “the” have less semantic content than words like “chair.” Moreover, grammatical categories like *noun* have more schematic semantic content.

We can further specify this symbolic nature into a second, related tenet of CG: syntax and semantics are inextricably linked. Not only is grammar

composed of symbolic lexical items and symbolic grammatical constructs (like parts of speech), but syntactic structures, or word order, entail different semantic content. Grammar and syntax are highly interrelated and CG does not attempt to undo this premise. Rather, CG posits that both grammar and syntax are conventional constructs or patterns that are directly affected by meaning. Consider the following example:

John kissed Mary.

Mary was kissed by John.

Each sentence details the same action, but the passive entails a semantic description whereby the focus is placed on Mary rather than John.

Dirven and Radden (1997: 1) posit the last tenet of CG with which we are concerned: CG is “a model of linguistic description which relates language to our conceptual world and our human experience.” That is, language use reflects our perceptions of the world. While this seems an obvious truth, an example may better illustrate the specificity and uniqueness of the approach. Consider the following sentences:

(1) We were tossing ideas around.

(2) Toss the ball to me.

Notice that both sentences are fully grammatical—even though (1) ends in a preposition! Both sentences are equally understandable because the conceptualization of the lexical item *toss* entails transfer of some tangible or abstract “object” from one individual to another. Human cognitive embodiment in language can also be seen in orientational metaphors (see Lakoff and Johnson 1980), as in *I'm feeling down today*. In that particular example, an unpleasant feeling (i.e. sadness, illness) is equated with spatial closeness to the ground. As we will see later in the section on boundedness, the fact that language reflects our perceptions allows us to do many flexible things in language. For example,

(3) Can you bring me four waters?

(4) The water gets rather dirty in the northern sections of the lake.

In (4) the term *water* is used in its traditional sense as a mass noun. However, we can grammatically alter this prototypical mass noun by perceiving it based on being in small containers for individualized consumption (3). The way we perceive the water dictates the grammatical choices we make.

2.3.1. Note on CL approaches to pedagogy

While the body of research in CL approaches and applications to L2 pedagogy is growing, there remains no empirical work on L1 grammar instruction and CL.

The experiments presented in this thesis represent the first endeavors into CL and L1 pedagogy to the author's knowledge. Despite this it will be worth reviewing, in brief, the conclusions drawn in those previous L2 studies. These results are reported in Hamrick and Attardo (in prep).

Boers (2000) reports on three experiments on Belgian students learning intermediate English. In these experiments, Boers used lessons in which learners were exposed to figurative expressions via underlying conceptual metaphors. The results of the first two experiments show that the learners with the metaphor-themed lexical items were better able to retain the items studied ($p < .05$) and ($p < .001$). Boers' final experiment tested multi-word verbs, yielding the following results: Students who were provided with metaphor explanations scored significantly higher than those in the control on previously listed multi-word verbs; however, the score was statistically insignificant when applied to novel multi-word verbs. Despite this problem, he concludes that "awareness raising" is beneficial for learners because of the motivational insights provided by understanding the "background" of a meaning. Boers (2004) reports back with an update showing that retention over time for the above-mentioned students faded to a statistically insignificant margin. Boers concludes that "a one-off eye-opener about the metaphoric nature of certain expressions is not sufficient to yield a long-term advantage in retention" (216).

Using Lexical Network Theory, the two experiments reported in Csábi (2004) show that in tests on core senses of polysemous words, phrasal verbs, and idioms which use *keep* and *hold*, learners with instruction on some of the

semantic senses of a word outperform students with traditional word-by-word translations between languages. In order to do so, 52 Hungarian-speaking learners of English (8th and 9th grade) were broken into four groups (experimental 8th and 9th grade, and control 8th and 9th grade) and presented a three-part lesson within 45 minutes. Part one focused on polysemy and senses, followed by a fill-in-the-blank exercise. Part two looked at phrasal verbs and had a sentence-completion test. Part three tested idiomatic expressions after schematic drawings were displayed to explain the idioms. The experimental (cognitive) groups consistently outperformed the control groups to a statistically significant degree: CL students scored roughly 8% better than control in the first test and 16% better in the second test. The success of the experimental group supports the hypothesis that learning core sense motivations “can be more stable than simply memorizing words and their L1 equivalents” (251).

While the empirical findings above represent a number of smaller and (usually) shorter applications of CL to SLA, Huong (2005) represents one of the more comprehensive implementations of Applied Cognitive Linguistics (ACL). Since Vietnamese does not mark for definiteness in the way English does, Huong decided to test the already-difficult area of English articles/determiners. Huong constructed a method of instruction that accounts for the behavior of all the English articles. Huong tested 67 fourth-year Vietnamese learners of English (advanced students were used because they were still making enough article/determiner errors to warrant testing). Two groups (experimental: n=34; control: n=33) were instructed and tested during the course of five weeks.

Instruction consisted of scripted lectures. Four tests were given (two pre-tests, two post-tests) and problematic test items were not recorded, e.g. miswritten test questions, etc. The first post-test took place at the end of week five. The experimental group scored 84.84% correct and the traditional group scored 76.85%, a statistically significant difference. Two weeks later, post-test two was administered. This time the results showed no statistically significant difference. Thus, Huong concludes that the hypothesis that cognitive based instruction would be of improvement over the traditional system is only partly confirmed, since only the shorter-term results were successful and the long-term success rates were statistically insignificant. These results resemble somewhat Boer's (2004) conclusions.

Tyler and Takahashi (2007) details an experiment testing modal verb usage on 36 L2 students in a US legal discourse class. The students were divided into two groups; one received minimal feedback on their writings, and the other received grammar error feedback based in CL. The students were required to write a draft and a final edit of an office memo for the course. Those students receiving minimal feedback scored 72.5% on their drafts and 68.8% on their final drafts. Students who received CL feedback on grammar scored 75.4% on their drafts and 86.2% on their final drafts. That is, the CL feedback group used modal verbs appropriately more frequently to a statistically significant degree over others.

Tyler, Kim, and Shakova (2007) present a report on an experimental study investigating CL-based learning of prepositions, in particular *over*, *to*, *for* and *at*.

Prepositions are often a difficult area for L2 English learners, and explaining the many senses associated with them is a strength of CL. Pre-tests indicated equivalent performance levels for both the experimental group and the control group. Next, the intermediate L2 English learners of the two groups received either experimental instruction rooted in CL or control instruction based on traditional methods. The results showed more improvement for the experimental (CL) group to a statistically significant degree.

Similarly, Matula (2008) tested intermediate ESL learners on the English prepositions *on*, *in*, and *at*. She divided the learners ($n=20$) into two groups, cognitive and traditional. The cognitive group received instruction on spatial senses and core senses in prepositions, while the traditional group was presented with rule-based preposition instruction. The experiment utilized three tests: pre-, post-, and delayed post. The results showed that students instructed with the CL method more consistently improved performance. However, the results also showed that neither group consistently outperformed the other on all measures. Matula concludes that in spite of this, the results generally validate the value of ACL.

While all this research points to a promising future for CL applications to L2 pedagogy, there remains two caveats: (a) The research is on L2, which although similar in many ways to L1, is pedagogically a very different thing, and (b) despite promising data, the results are still inconclusive as to the effectiveness of ACL.

2.3.2. *Boundedness*

There is a cognitive reason why human beings might say *four cars* but not *four oxygens**. CL calls this feature **boundedness**. Evans and Green (2006: 519) succinctly define the term: “boundedness relates to whether a quantity is understood as having inherent boundaries (bounded) or not (unbounded).” Boundedness manifests itself spatially in two ways in English, which will be explained below.

Boundedness in the domain of SPACE

In spatial terms, boundedness is the difference between count nouns and mass nouns. That is, count nouns, like *wallet* and *book*, differ fundamentally from mass nouns, like *oxygen* and *abyss*. This is because count nouns are perceived and/or construed as being bounded (having inherent boundaries); whereas mass nouns do not have inherent boundaries, hence making them unbounded.

Obviously, without inherent boundaries, it is difficult to count oxygen.

Similarly, if one is in a swimming pool, one tends to not absurdly attempt to perceive each water molecule in the pool as distinct and part of a large group of water molecules. Counting the molecules in the pool, apart from being essentially impossible, is an even more absurd task. Problematically, most nouns are not strictly count or mass. Most nouns can act as either a count noun or mass

noun depending on the context and depending on how a speaker attempts to construe the meaning. Consider the following example:

(5) They have *steak* on the menu.

(6) This *steak* is incredibly tender.

In example (5), *steak* is construed as an unbounded, mass object. *Steak* is unbounded in this example because no sharp and fast distinction is being made as to a specific type, cut, or piece of steak. Instead, *steak* is construed as a general category whose inclusiveness—hence, boundary—is not specified. In example (6), *steak* is very specific to the speaker and, presumably, the hearer. In (6), *steak* is clearly bounded; it refers to a specific cut and piece of steak. The *steak* in (6) has clear visual boundaries on the plate, distinct from other food items that may be on the plate.

With this understanding of the flexibility of boundedness, it might be argued that students cannot really *get it wrong*. However, there are two assertions to the contrary. Firstly, while it is rare, students may break from the social norm and use the language in a marked way. For instance, some of my students have used the word *punctuations*. While not wrong strictly speaking, it is unconventional. These unconventional uses may be problematic if they become associated with less-prestigious forms of language use. Ultimately, they just might make the student seem less educated. Secondly, there is a rhetorical function in knowing when and how to construe something as count or mass.

Students with a grasp of the count/mass distinction may benefit by being more careful with word-choice. In (7) and (8) below, a rhetorical difference caused by the count/mass distinction is given.

(7) We should unite all the *people* of the world.

(8) We should unite all the *peoples* of the world.

Example (7) offers a rhetorical decision where the speaker chooses to construe the lexical item *people* as a mass noun. This construal places a rhetorical emphasis on similarities between humans—we are all one people, so to speak. The semantic content of the sentence can be paraphrased as *we are all the same, so let us come together in unity*. The construal in (8) suggests something different. (8) agrees on the need for unity, but by using the count noun *peoples*, it emphasizes diversity as well as similarity. It could be paraphrased as *we are all unique, but we share our humanity, so let us come together in unity*. Needless to say, these are significant decisions that careful writers make in their compositions.

Boundedness in the domain of TIME

In temporal terms, boundedness deals with verb aspect and tense. In particular, to be bounded or unbounded in TIME is the difference between the perfective and imperfective. While the perfective is well known in English, the

imperfective—which is more commonly used in other European languages—is basically the same as what we call the progressive. In English, the perfective is marked by the auxiliary *have*. The two primary perfectives are **present perfect** and **past perfect**. Both perfectives are bounded events, meaning that they are construed as “completed.” This means that verbs in the perfective are conceived as having inherent boundaries.

(9) Lily *has grown* so much this year.

(10) Sarah *had made* some tea before going to bed.

The present perfect use in (9) stems from the fact that Lily’s growth is construed as bounded by the time frame imposed by the phrase *this year*. If *this year* were removed from the sentence, the present perfect still would make sense because it is still a completed process. In (10) we have the past perfective. This encodes the same sense of completion, but the time of completion is situated more distinctly before some other event that also occurred in the past. In this case that other event is *going to bed*.

On the other hand, in simple and progressive tenses, the verb is construed as unbounded. That is, the verb is seen as not having a specific or relevant point of completion.

(11) Shannon swims in the pool.

(12) Shannon is swimming in the pool.

(13) Shannon was swimming in the pool.

In the above examples there are three imperfectives: simple present, present progressive and past progressive. In (11), the choice of the simple present tense construes Shannon's swimming in the pool as a habit or general tendency; hence, there is no distinction made about completion, as it is neither specified nor relevant. Similarly, (12) uses the present progressive to emphasize that Shannon is currently swimming in the pool and that the duration of her activity is not specified or relevant. Finally, in (13) the past progressive is used to explain that Shannon was swimming for some duration of time, but the duration is not relevant. Hence, in all three examples no sense of completion or of a specified boundary is given. This is the "unbounded tense," the imperfective.

Unlike the count/mass distinction, the perfective is a known problem area for many students (Connors and Lunsford 1988). The perfective problem can be found in both student writing and lack of explicit understanding. Thus, any instruction on the perfective may prove useful.

This chapter included a brief history of grammar and grammar instruction. Particular attention was given to recent trends and theories about grammar and grammar instruction. Cognitive Grammar was introduced with a significant focus on boundedness. With this previous research addressed, we can now move to the pilot study.

3. Pilot Study

This chapter reports on an experiment designed to determine the effectiveness of teaching the count/mass distinction to L1 English-speaking American students using methods based in CG. This experiment acted as a pilot study for the more developed tests reported later in this thesis.

3.1 Count/mass in CG and Traditional Grammar

CG explains the count/mass distinction (see 2.3.2.) within the framework of the theory of boundedness. Traditional Grammar, on the other hand, explains the count/mass distinction simply on the measure of countability. That is, a count noun encodes an entity that is considered countable in English, and a mass noun encodes an entity or abstraction that isn't countable (Aaron 2007: 189). While this handles a large number of usage instances, it does not handle more creative, less prototypical instantiations of count and mass nouns. For example, *That is too much car for you* contains the typically countable noun *car*. However, in the context of that sentence, *car* is used as a mass noun. Traditional Grammar does not account for this acceptable variation. Hence, since the CG explanation is more comprehensive and systematic, it should be able to generate better student performance in a wider range of linguistic situations.

3.2 Methodology

The experiments reported here were designed to test empirically the effectiveness of a CG approach to grammar pedagogy in the matter of the count/mass distinction. In order to gauge the effectiveness of this CG approach, the effectiveness of Traditional Grammar instruction on the count/mass distinction was also tested.

3.2.1. Participants

During the Spring semester of 2006, experiments were performed on monolingual, English-speaking American students in English Writing I courses at Youngstown State University (an open enrollment public university in Ohio). Before testing, IRB permission was secured from the HSRC at Youngstown State University. Students ($n=28$) from two classes were tested. Both CG instruction and Traditional Grammar instruction were given within the same classes. Instructional handouts were distributed evenly and randomly—that is, fourteen students each received one CG handout and another fourteen students each received one Traditional Grammar handout.

3.2.2. Procedure materials

In order to measure student performance and to draw conclusions about the comparative effectiveness of a CG approach and a traditional grammar approach to the count/mass distinction, there were two tests: pre-test and post-test. In addition to the two tests (see the pre-test, *Count/Mass Test*, in the *Appendix*) there were two single-page instructional handouts (see *Count/Mass CG Handout* and *Count/Mass Traditional Handout* in the *Appendix*). The two tests were variations of the same test. Both comprised the same questions randomized to prevent proximity learning. The questions were presented in *circle the appropriate answer* format, where students selected between either count or mass, as in (1) below:

(1) They have *coffee* on the menu.

In this sentence, *coffee* is count mass

Students received instruction via handouts. The instructional handouts consisted of one side of a single page. The handouts were designed deliberately to be brief and minimal so as to keep the pedagogical grammar practical and unintrusive to other class work. There were two types of handouts: one with an explanation the count/mass distinction couched in the framework of CG, and the other with an explanation of the count/mass distinction based on Traditional Grammar pedagogy. The examples included on the instructional handouts were identical in presentation, with the only variable being the explanations provided by the underlying “theories” of CG and Traditional Grammar.

3.2.3. Pre-tests

The goal of the pre-tests was to determine the baseline performances of the students. That is, I measured the performance of the students without any instruction on the count/mass distinction. For the pre-tests, students were given ten minutes to answer the questions. The only instructions given to the students were to do their best and to follow the directions on the tests, which simply stated, "Circle the correct answer." Students were informed that there would be no grade given for the tests, and the class resumed after testing.

3.2.4. Post-tests

The post-tests were the focus of the experiment. These tests would determine the significant differences, if any, between the explanatory abilities of CG and Traditional Grammar. After a period of a week, the post-tests were administered. On the day of the post-tests, each student was given either the CG instructional handout or the Traditional Grammar instructional handout. Then the students were instructed to study the content of the handout they were given, as they would be tested in ten minutes (although it was again clear that no grade would be assigned).

After the allotted study time, the post-tests were distributed, and the students were instructed to use their handouts to answer the test questions. The

students were also instructed to record their “handout type,” which distinguished between the CG handout (labeled “Type X”) and the Traditional Grammar Handout (labeled “Type O”). Class proceeded as usual after testing.

3.2.5. Questionnaires

After the post-tests and handouts were collected, I distributed open-response questionnaires about the handouts. Each questionnaire contained questions about the students’ previous experiences with grammar and also inquired as to their feelings about the approaches in the handouts. The questionnaires were correlated with handout type in order to see if variations in performance or instruction type corresponded with student reaction. The role of the questionnaires was two-fold: (1) I wanted a qualitative aspect to the research; (2) I wanted to hear genuine student opinions about grammar.

3.3. Results

3.3.1. Pre-Tests

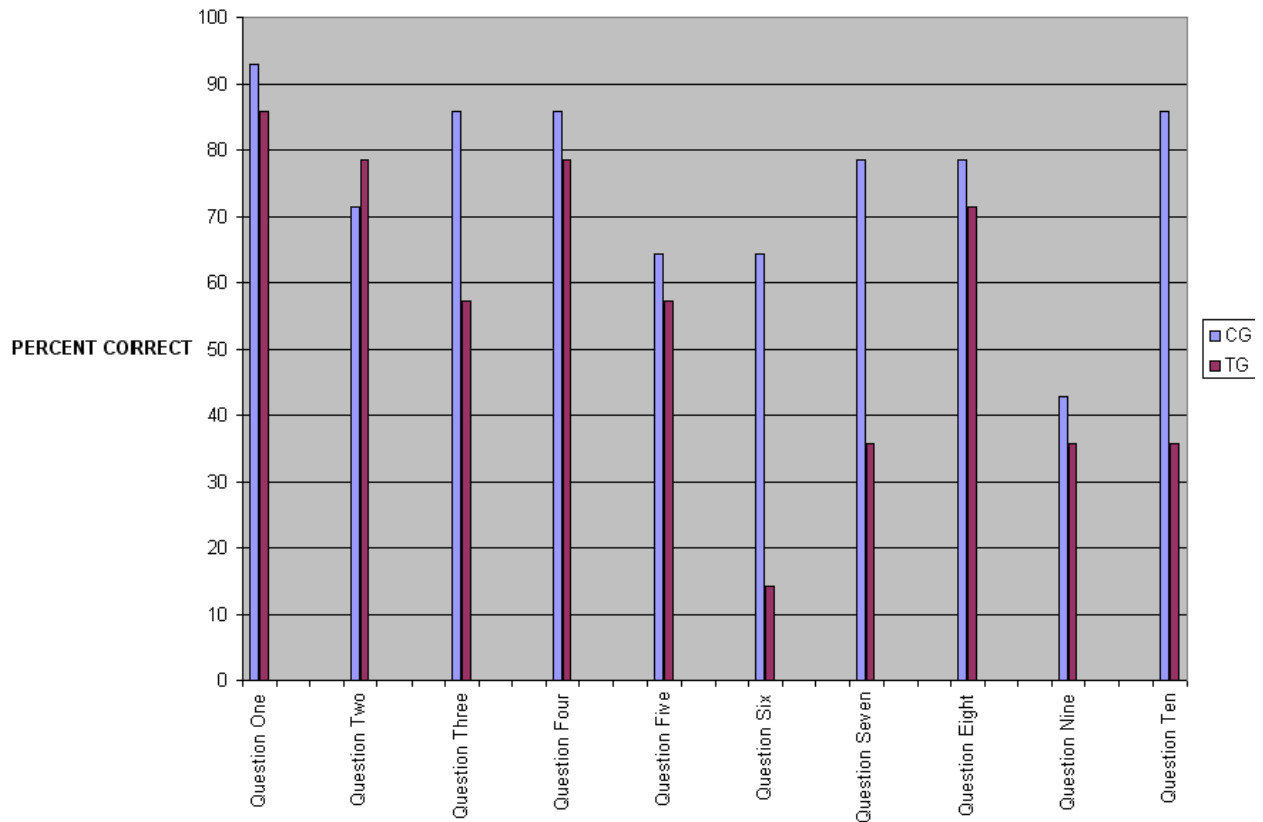
Mean overall scores for all the students in both classes on the pre-tests were 51%. That is, on average, only 51% of the students were able to distinguish count nouns from mass nouns in the context of a simple sentence. These results were not significantly different from random. That is, they could have guessed on all the questions and still have scored the same.

3.3.2. Post Tests

The post-test results exhibited a sharp variation in performance from the Traditional Grammar test groups to the CG test groups. The CG groups displayed the ability to distinguish count from mass at a rate of 75%, whereas those using Traditional Grammar handouts only scored at a rate of 55%. The chart below illustrates the differences by noting the ratio of those scoring correctly/incorrectly for each question in the post-test.

Question	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10
Trad Gr	12/2	11/3	8/6	11/3	8/6	2/12	5/9	10/4	5/9	5/9
CG	13/1	10/4	12/2	12/2	9/5	9/5	11/3	11/3	6/8	12/2

The following illustrates the same details.



While students instructed with CG do not evenly outperform on every measure those students instructed with Traditional Grammar, the CG students did significantly outperform the Traditional Grammar students in overall measures. The significance of the difference between the results of the two groups was tested using the Wilcoxon Matched-Pairs Signed-Ranks Test. The two-tailed P value was .0059. Hence, the results were statistically significant. That is, the results—the 20% difference between Traditional Grammar and CG—could not be accounted for by chance.

Two significant conclusions can be drawn. First, and most importantly, the significant improvement (20% over Traditional Grammar and 24% from the pre-tests) in performance from the CG group is indicative that grammar

instruction on the count/mass distinction based in a CG pedagogy has an effect on learning that suggests it to be a potential source for future pedagogical use.

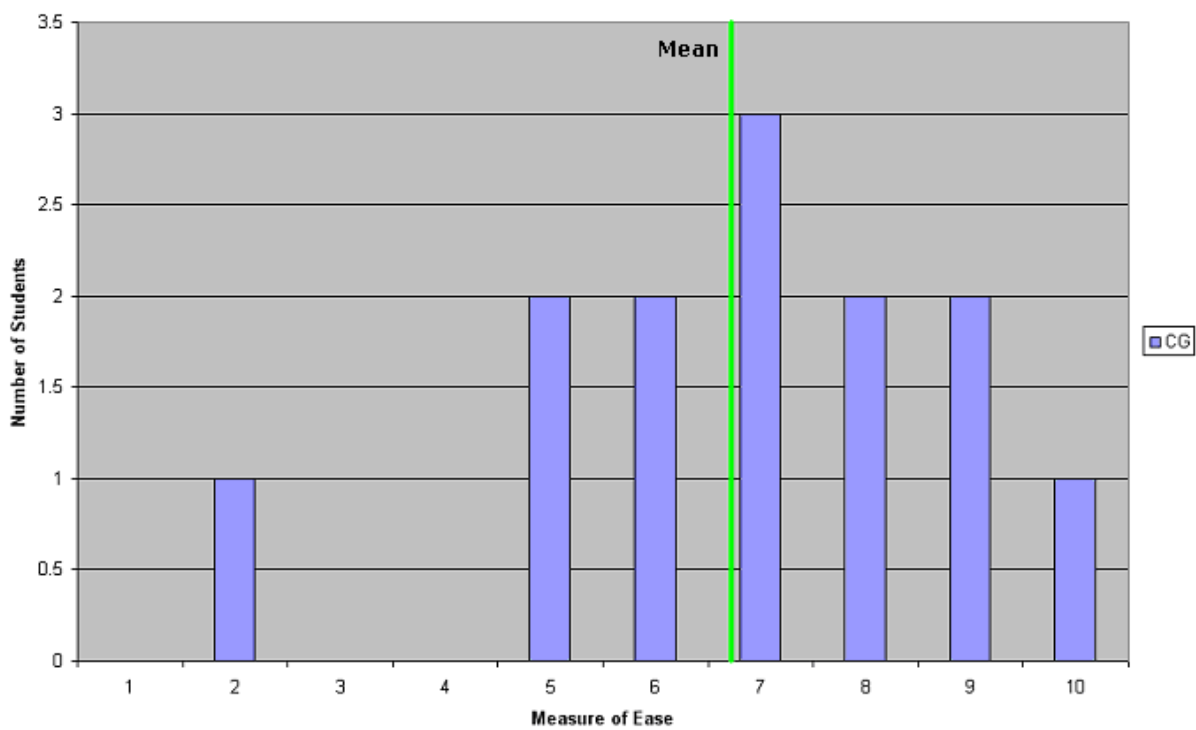
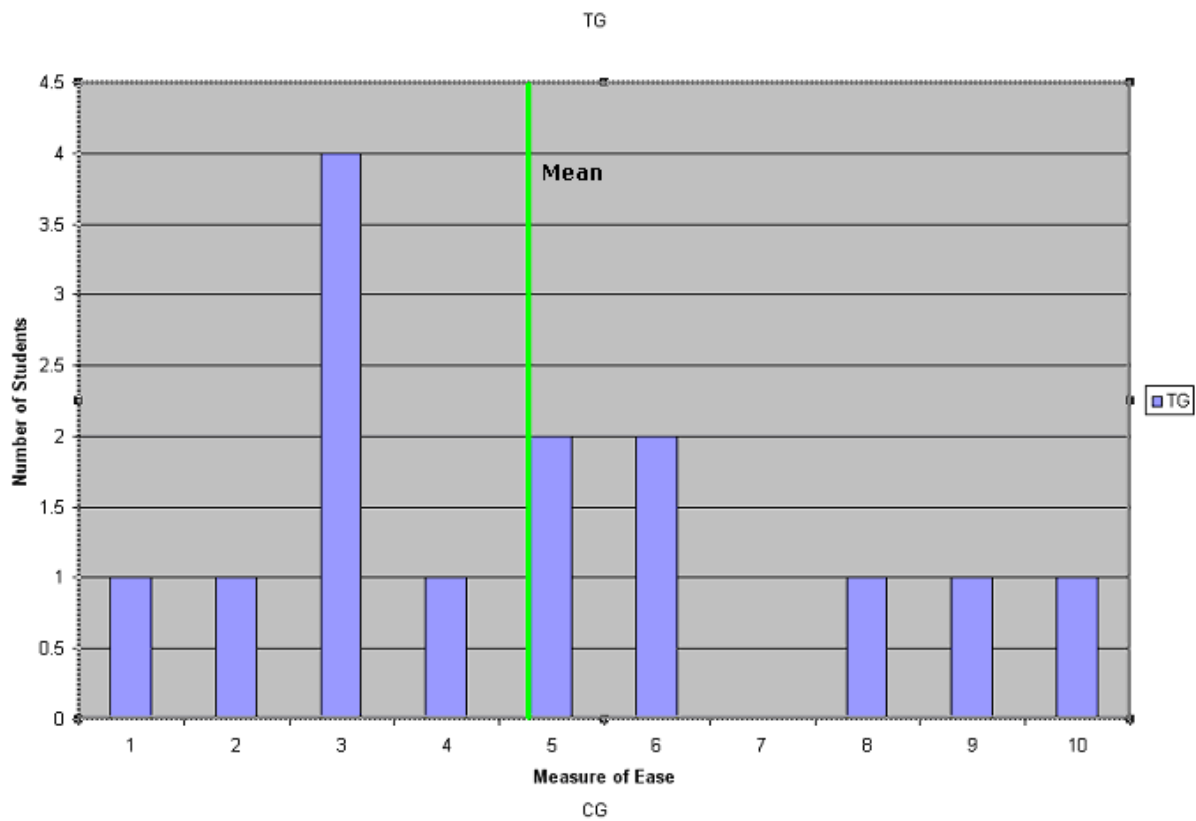
Second, on the matter of the count/mass distinction, Traditional Grammar instruction is statistically no different from not teaching grammar at all. Hence, in this case, Braddock et al.'s (1963) assertion that Traditional Grammar instruction has a negligible effect on writing can be explained. That is, if students cannot learn explicit knowledge from Traditional Grammar, how could it possibly have an effect on their writing?

As mentioned above, tests (like the other tests in this thesis) that further comparatively examine CG versus Traditional Grammar performance would reveal a great deal as to whether or not CG consistently is as impressive in its results as it was in this experiment. Even if CG can produce results half as successful as those found here, it would still provide a new (and as we will find from the questionnaire responses below) and more accessible method of teaching grammar.

3.3.3. Questionnaires

After the post-tests, I distributed questionnaires to survey student responses to the experiment. Perhaps the most interesting data are the "Measure of Ease" statistics. On a scale of 1-10, with 10 being the easiest, I asked students to rank the difficulty of their handouts and tests.

The figures below are representative of the Traditional Grammar group and CG group, respectively. Note the mean measure of ease lines.



Variation in ease corresponds with the results based on CG versus Traditional Grammar. Although it is impossible to determine whether or not the measure of ease is directly related to performance, it is not unlikely that the performance figures are at least somewhat reflective of the accessibility of CG's boundedness feature. Note that the gap between the two spikes in measure of ease (most votes for ease in Traditional Grammar: 3; most votes for ease in CG: 7) suggests that there is a notable difference in perceptions of ease between Traditional Grammar and CG students. I consider the results, therefore, two successes for CG: (1) better performance on tests and (2) increase in student perception of ease, which may boost student confidence.

The rest of the questionnaire featured general questions regarding the experiments, like *What are your feelings towards grammar?* The responses were fundamentally similar across the board. The students indicated past troubles with grammar and their subsequent aversion to it (in their own words):

(a) "I hated learning it because teachers haven't been taught to teach it well."

(b) "Generally I hate it. Grammar is hard to grasp and remember."

Compare the first student response (a) to the arguments posited by Weaver (1979, 1996), Byrd (1998), and Liu & Master (2003), namely, that "teachers who possess a solid command of grammar are better prepared to meet their students' learning needs than those who do not" (Liu & Master 2003: 1). Some of the

student responses suggest that the lack of teacher training in grammar is apparent, at least to the students.

Since the experiments were done as mini-lessons another intriguing figure is the number of students who responded to the length of exposure. The students also had to respond to the following survey question: *How could this lesson have been improved?* A little over 70% of the students responded with some form of the same suggestion:

(c) “Not long enough to give enough examples.”

(d) “More time.”

(e) “More time on it.”

To some, such an overwhelmingly agreed-upon response on the matter may hint that reconsideration of earlier ideas is in order. Namely, many have suggested that we need to make grammar instruction as brief and unintrusive as possible (Noguchi 1991; Weaver 1996). Some might attempt to justify grammar instruction based on such student calls for *more* instruction. Some might propose longer exposure to CG modeled lessons. Yet, how effective can we expect this to be? It may seem counterintuitive to some—even though short, cognitive-based grammar lessons are producing 75% success rate—but significantly larger chunks of time may in fact prove to be less useful. After all, it is easier statistically to improve from 50% to 75% than 75% to 80%. Considering this and the already impressive effectiveness of the mini-lesson, it is recommended here that the

brevity of the instructional handout remain intact in future versions of this model.

3.4. Conclusion

The statistically significant difference in overall improvement from the CG-instructed students over the Traditional Grammar learners supports the general hypothesis underlying all of this research—that CG provides a more effective method of grammar instruction. Of course, for this underlying hypothesis to be entirely verified, we must test across a number of grammar points. Hence, the results from the pilot study suggest that more research needs to be done on CG instruction.

The results also suggest the benefits of a mini-lesson approach to CG instruction. A brief exposure to an explanatory handout was enough to result in learner performance improvement by over 20%. Thus, there is no reason to doubt the effectiveness of CG instruction via a mini-lesson. However, there were no follow-up tests in this experiment, and since exposure time may be related to retention, there may be some differences in performance that were not measured here. Future studies will necessitate delayed post-tests (follow-up tests) to determine long term performance. Such tests will also need to take into account whether success or failure in delayed post-tests stems from the brevity of the mini-lessons or the pedagogical effectiveness of CG/Traditional Grammar.

Another caveat to be considered is the relatively small sample size. With only 28 students, even the smallest variations in performance result in significant percentage shifts. Future studies will benefit from larger sample sizes. Not only will these samples result in more stable data, but also will safeguard the numbers to preclude the problems and effects of unforeseen data loss.

A final problem might be in the nature of the questions on the tests. The test questions required students to name an instance of usage as either *count* or *mass*. Certainly, there is no clear link as to whether or not the ability to label a noun *count* or *mass* translates to more appropriate usage. To prevent this problem in later studies, test questions should be framed so that students have to make a language selection decision. While again this may not directly translate to more appropriate usage in real-life situations, making a linguistic choice certainly is much closer to a real-world model than a *name the part of speech* model. However, concern over pro-active decision making is, in some sense, a bigger concern for L2 students than L1 students because L1 students already tend to choose appropriately. Thus, mending this caveat might be a bigger issue for testing L2 applications of this model.

Ultimately, this pilot study constitutes the first model of the study reported in Chapters 4, 5, and 6. The model and methodology reported in Chapter 4 stems from this pilot study, improving on the sample size and follow-up test problems. Results in Chapter 5 will be compared to those in this pilot study. Finally, the discussion in Chapter 6 will not only give attention to the

main experiments but also reanalyze the conclusions of this pilot study in the context to those main experiments.

4. Methodology

The experiments that constitute this primary study were designed to test empirically the effectiveness of grammar instruction based in CG on the matter of the perfect and progressive tenses in English. In order to measure the effectiveness of the CG instruction, grammar instruction based on Traditional Grammar was also used for comparison. As with the pilot study in Chapter 3, a mini-lesson framework was used. Thus, the CG/Traditional Grammar instruction was as minimally intrusive as possible. That is, the brief handout instruction was and is an accessible method of grammar instruction that can be situated within any pedagogy that includes explicit grammar instruction.

4.1. Participants

The experiments reported here took place during the Spring 2008 semester at Youngstown State University on mono-lingual English-speaking College Writing II students ($n=60$). IRB permission was secured from the HSRC at Youngstown State University before the experiments began. No students produced any significantly different performance in the pre-tests that necessitated their removal from the experiments.

4.2. Materials

The study consisted of three tests (see *Tense Test* in the *Appendix*) and two instructional handouts/post-tests (see *CG Tense Handout Tablet* and *Traditional Tense Handout Table* below and in the *Appendix*). Each test consisted of the same twenty questions randomized. The randomization was intended to prevent position learning. I did not change the question type from the pilot study (name the part of speech) because one of the goals of the tests was to get students to be more conscious of what certain tenses entail. To explain this matter, consider the following examples:

(1) Name the tense used.

Sean *has gone* to the grocery store. _____

(2) Circle the appropriate tense.

Bob *has gone/had gone* to the grocery store. (present perfect)

Test questions of the first type were chosen for the experiment because in order to answer, students must first read an explanation of what tenses *mean*. For instance, in order to answer (1) correctly, the student must understand present perfect, past perfect, present progressive, and past progressive and extrapolate their meaning to the verb phrase *has gone*. Whereas, in (2) students may have been inclined to simply to memorize that the syntactic pattern for present perfect is HAS + V (+ past tense marker). Needless to say, this syntactic memorization

does not instruct students on *when* to use a certain tense but merely shows them how to compose it. If we are looking at grammar instruction within a composition classroom then we should be giving considerable weight to instruction that facilitates better student comprehension of language and hence, generates better student choice-making and understanding.

The pre-tests and follow-up tests consisted only of questions. The post-tests, on the other hand, featured explanatory tables on the same sheet as the tests (see 4.3.2.).

4.3. Procedure

In order to understand how effective CG instruction and Traditional Grammar instruction on tense would be, three measures were used: pre-test, post-test, and follow-up test (delayed post-test).

4.3.1. Pre-tests

The function of the pre-tests was to ascertain the baseline performances of the learners. That is, we wanted to measure the average student performance without any previous instruction on tense in English. For the pre-tests, students were given a maximum of ten minutes to do their best to determine what tense was being used. The only instructions students received were to do their best work and follow the directions on the test, which read: *Select the appropriate tense for*

the italicized verbs. Learners were informed that no grade would be given for the tests, and class resumed as normal after testing.

4.3.2. Post-tests

The goal of the post-tests was to determine any significant difference between the performance of those students instructed with CG and those students instructed with Traditional Grammar. The post-tests featured instructional tables (Figure 1 and Figure 2 below) on the top half of the page. These tables explained the four tested grammar features: present perfect, past perfect, present progressive, and past progressive. The tables contained no examples, just a semantic explanation. Both the pre-test and post-test handouts featured the same questions, so the only variables were the explanatory abilities of CG and Traditional Grammar.

(A) Present Perfect Bounded action in past that is currently relevant	(C) Present Progressive Unbounded in present
(B) Past Perfect Bounded entirely in past	(D) Past Progressive Unbounded in past

Figure 1. Cognitive Grammar table

(A) Present Perfect – action that began in the past and is linked to the present	(C) Present Progressive – continuing action in the present
(B) Past Perfect – action that was completed before another past action	(D) Past Progressive – continuing action in the past

Figure 2. Traditional Grammar table

One week after the pre-tests, the post-tests were administered. For the post-tests, each student was given either the CG instructional handout/test or the Traditional Grammar instructional handout/test at random. Students were then instructed to carefully answer all the test questions using the explanations given to them.

Students were given ten minutes to study and answer. Again, class resumed as normal after testing.

4.3.3. Follow-up tests (delayed post-tests)

In order to measure the longer-term effects of the instructional handouts, follow-up tests were administered two weeks after the post-tests. The follow-up tests did not feature the explanatory tables of the post-tests, but instead contained only the test questions. Thus, it was more like the pre-test in overall look and method of administering. Students were given ten minutes to recall the information they had been exposed to on the instructional handouts/post-tests. As with the prior two tests, class resumed as normal after testing.

5. Results

While the total number of learners used in the experiments was 60, there were in fact, two rounds of experiments performed. At first, two batches of students were used; for simplicity, they will be called Experiment Group A ($n = 40$) and Experiment Group B ($n = 20$). The number of students in Experiment Group A was already an improvement upon the model in the pilot study ($n = 28$) and was closer to the sample size used for a similar CG model's application to L2 (see Hamrick and Attardo, in prep). Experiment Group B was tested for difference from the first batch of data. The data reported below will be presented in the following manner: firstly, the comparison of baseline performances in the pre-tests of Experiment Groups A and B will be examined. Then, the overall scores from the combined performances reported in experiments A and B will be reported.

5.1. Pre-test results for Experiment Groups A and B

The overall mean percentage of correct answers in the pre-test for Experiment Group A was 41.43%. The overall mean percentage of correct answers in the pre-test for Experiment Group B was 43.17%. A Mann-Whitney U Test was used since the data did not appear to have normal distribution. The Mann-Whitney U Test is comparable to a Wilcoxon Matched Pairs test. The difference between

the scores of Experiment Group A and Experiment Group B were not significant ($p = .23$). Figure 1 below illustrates the two pre-tests.

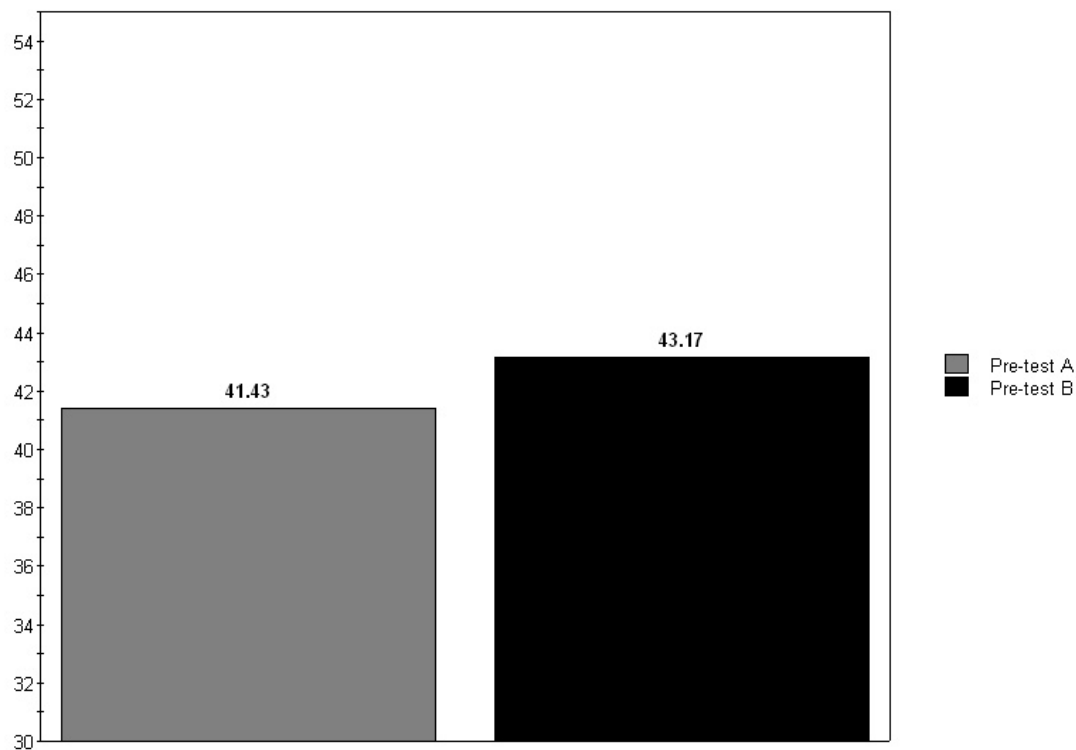


Figure 1. Mean percentages of overall correct scores in pre-tests of A and B

Since the baseline performances in the pre-tests were not statistically different, it was concluded that the sample pools of Experiment Group A and Experiment Group B could be combined. The overall results are reported in the next section.

A final note about the pre-tests: Since the students had four possible answer choices (present perfect, past perfect, present progressive, and past progressive), random performance would be success at a score of 25%. This meant that students were performing at a baseline much higher than random. This is not entirely surprising since native speakers were the test subjects. For a

native speaker, distinguishing progressive from perfective probably is not as difficult as distinguishing between, say, present perfect and past perfect. The scores of 41.43% and 43.17% on the pre-tests suggests that students armed with even a vague understanding of the progressive/perfective distinction could reduce the possible answers to roughly 50%, thus improve their chances at getting the correct answer.

5.2. Overall post-test results from Experiment Groups A and B

Since the differences in the scores of Experiments A and B were not statistically significant, they could be combined into some final results. The mean percent of overall correct scores for the pre-test was 42.46%. The students who were instructed with a CG handout scored 53.22%. Students instructed with a Traditional Grammar handout scored 43.17%.

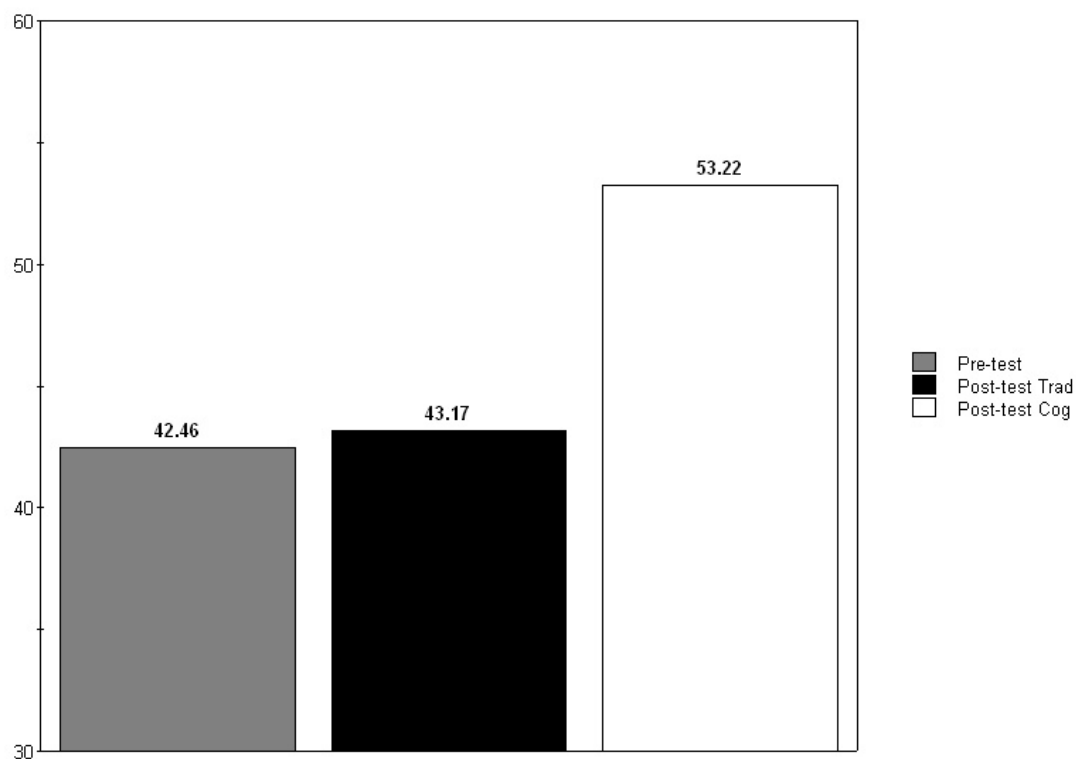


Figure 2. Totals: pre-test and post-test mean percent of overall correct scores

Using a one-way unstacked ANOVA, several differences were tested for significance ($p < .05$). The post-test score of the Traditional Grammar learners (43.17%) was not statistically significant from the pre-test score ($p > .05$).

Hence, the role of chance in the difference in performance of the Traditional Grammar learners in the post-test from the pre-test could not be discounted. The post-test score of the CG learners was significant over pre-test scores ($p = .0017$). Hence, it can be said that in the post-tests, learners instructed on the perfect and progressive tenses using CG outperform those learners instructed with Traditional Grammar to a statistically significant degree. This means that

the better performance of CG learners over Traditional Grammar learners cannot be attributed to chance.

Follow-up tests were administered two weeks after the post-tests, yielding the following results. The Traditional Grammar learners scored 41.75% while the CG learners scored exactly 50.00%. These scores were also tested using the one-way unstacked ANOVA. Not surprisingly the Traditional Grammar score was not statistically significant from the pre-test or the post-test. The CG score on the follow-up also was not statistically significant ($p = .057$), although the number is close to what is needed for significance ($p < .05$). Nevertheless, with a 95.00% confidence level it cannot be said that the CG follow-up scores are not due to chance.

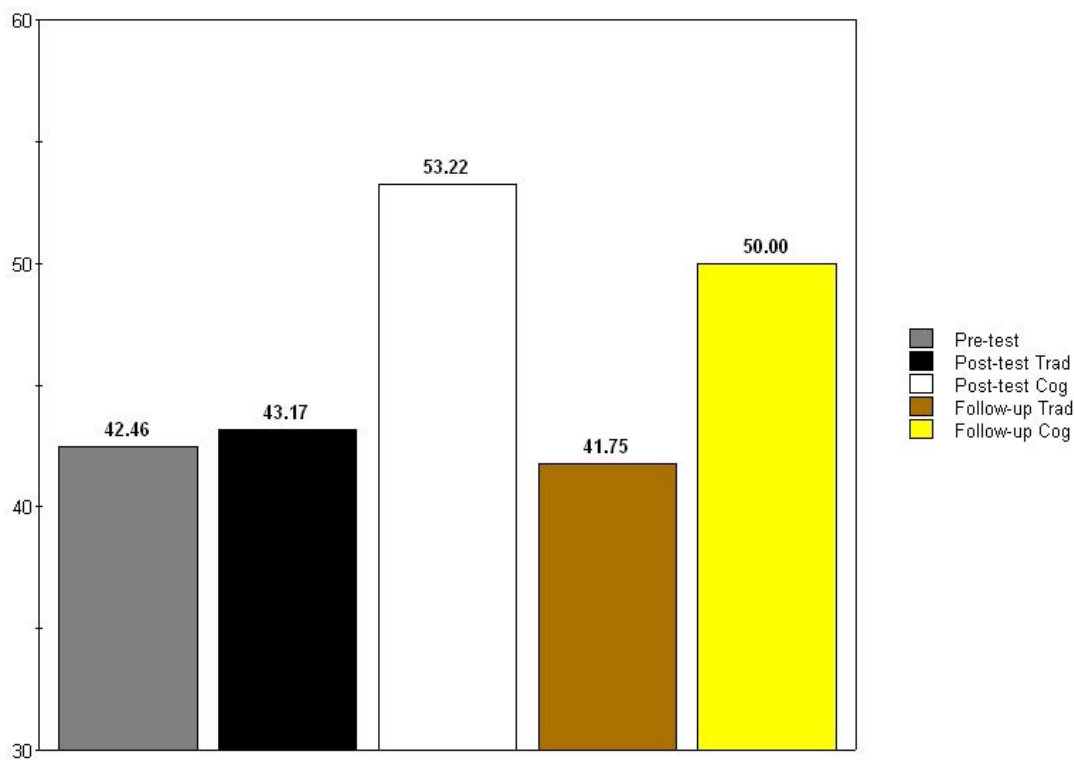


Figure 3. Pre-test, post-test, and follow-up mean overall correct scores

5.3. *The present perfect anomaly*

A noticeable problem area for all learners were the questions on the present perfect. When the present perfect questions in the pre-tests are isolated, the overall mean percent correct score on them is 23.64%, which is essentially random. Experiment A post-tests revealed that learners instructed with Traditional Grammar scored 26.64% on the present perfect questions. Learners instructed with CG scored 44.64%. Again, using the one-way unstacked ANOVA, the CG here was significant over the pre-test present perfect score ($p = .008$) while the Traditional Grammar was not. That is, the difference in the improvement (CG: 21% over pre-test; Traditional Grammar: 3% over pre-test) of the CG score over the pre-test to the Traditional Grammar score over the pre-test was statistically significant. Also, the differences in the present perfect scores of the CG learners (44.64%) and the Traditional Grammar (26.64%) learners was significant ($p = .022$).

In the follow-up tests, present perfect scores fell for both the CG learners and the Traditional Grammar learners. CG learners scored 32.64%, while Traditional Grammar learners fell below random to 23.96%. Interestingly enough, neither follow-up score was significant in comparison to the pre-test score, but the follow-up CG score was statistically significant from the follow-up Traditional score ($p = .044$). Hence, it can be said that the CG learners

outperformed the Traditional Grammar learners on all measures of the present perfect.

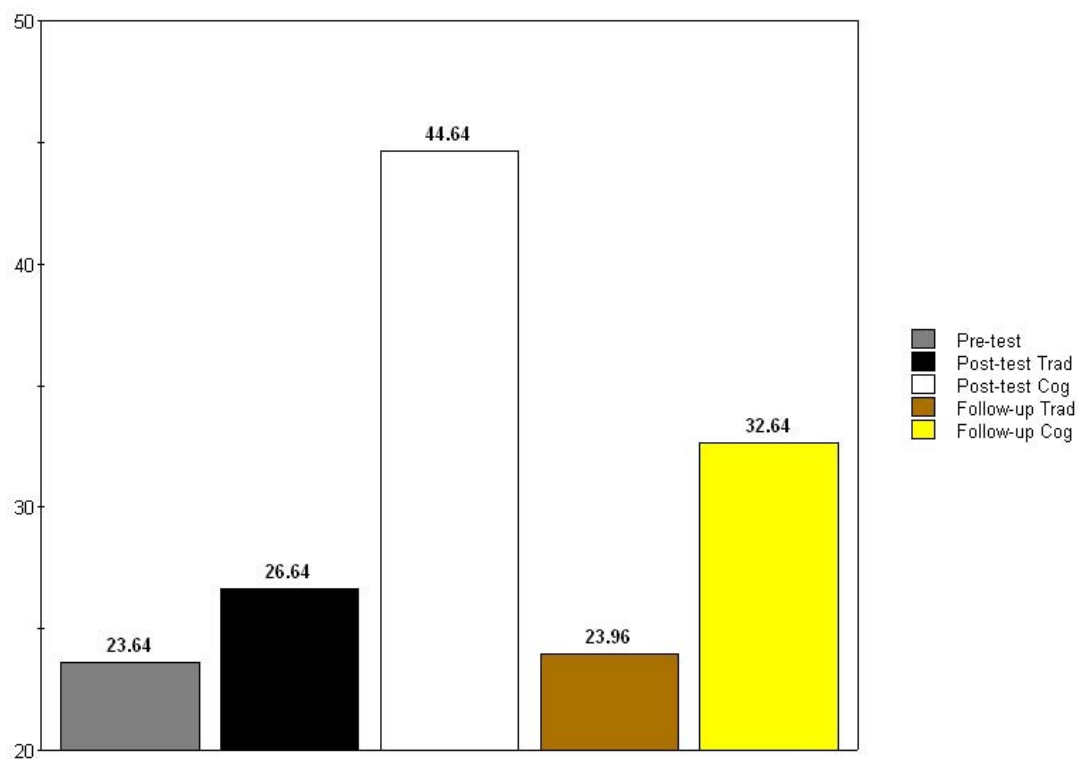


Figure 4. Pre-test, post-test, and follow-up present perfect scores

It can be said here rather simply that CG instruction on the perfect and progressive tenses is more beneficial to learners in most measures, but we should now turn to Chapter 6 for a more thorough discussion of all the results.

6. Discussion

6.1. Pre-test Experiment Groups A and B

As reported in Chapter 5, there were two experiment groups, A ($n = 40$) and B ($n = 20$). In order to pool the results of Experiment Groups A and B, the differences in the results of the pre-tests of Group A and Group B were subjected to the Mann-Whitney U Test to check for statistical significance. The result was that the pre-tests of groups A and B were not significantly different, and hence, they could be combined into an overall group simply called “Pre-test.”

One of the “peculiarities” of the pre-test results was the significantly high scores (41.43% and 43.17%). Scoring nearly 20% above random (25% in these tests) is a wide margin, and it reflects up to a decade (or maybe even longer) of grammar instruction that many students received in K-12 schooling. Since students with no instructional exposure to the perfective or progressive tenses should have scored around 25%, which is random, it has to be posited that the 20% improvement could be the result of years of Traditional Grammar instruction. Too, this must also be asked: if years of grammar instruction are indeed the cause of the 20% scores above random, were those years of grammar instruction worth all the effort? When compared with what happens during a five to ten minute (I say five to ten because not all students used the whole ten minutes) exposure to CG (10% improvement) the pre-test scores look less

impressive, despite being 20% above random. Keep in mind, also, that improving from 40% to 50% is more difficult than improving from 25% to 40%.

It also seems possible that the high pre-test scores could be attributed to students who understand a general sense of the word “progressive” as meaning loosely “continuing.” These students might have been able to whittle down possible answers to 50% based on their understanding of the verb phrase in question as being continuing or completed. If enough students were able to do this, it could explain the 20% score above random.

Questionnaires were distributed after the entire experiment was completed. These questionnaires asked the students to explain why they chose the answers they did. Not surprisingly, some students stated that certain verb phrases were progressive because “the action is continuing” or “it keeps happening.” Not all students responded as such. Many students simply relied on the tense of the auxiliary; so they only got one “present” correct, the present progressive. This may explain partially some of the low scores on the present perfect. Finally, some students said (approximately) “I remember from high school that ‘ing’ was progressive participle,” which isn’t quite right, but close enough to increase the chances of getting it correct on the test.

In sum, it seems quite possible that a combination of the loose understanding of the progressive, coupled with some recollection of years of K-12 grammar instruction could account for pre-test scores.

6.2. Overall results

Students instructed with a CG explanation of the perfective and progressive tenses outperformed students instructed with a Traditional Grammar explanation. This confirms the central hypothesis of this thesis that CG's boundedness theory offers a more pedagogically sound method of teaching grammar than those methods provided by Traditional Grammar. Moreover, it lends support to the larger hypothesis that CG is more pedagogically effective than Traditional Grammar.

To what can the success of CG in these experiments be attributed? The elegance of the theory of boundedness has long been regarded as one of CG's strengths. As the results indicate, this strength shows up in application. Just as CL's Conceptual Metaphor Theory and Lexical Network Theory have proved effective in L2 instruction (see Boers 2000 and Czabi 2004), so now we can speak of the effectiveness of boundedness in L1 instruction. The fact that boundedness can explain both the count/mass distinction and the perfective and progressive tenses means that it should be ultimately more accessible to both teachers and students. It also means that students who may understand, say, count/mass early on in grammar instruction might more easily grasp the perfective and progressive tenses and vice versa. Of course, to prove this would require more research. Nevertheless, it needs to be emphasized that boundedness presents the possibility for a more unified, systematic approach to at least some aspects of grammar instructions.

Of course, boundedness also constitutes one of the weaknesses of this thesis. The very fact that boundedness is so elegant—so “strong”—means that the effectiveness of the CG handouts in the experiments reported here may not be representative of the pedagogical effectiveness of CG as a whole. Again, more research is necessary (some of this work is being done, Hamrick and Attardo, in prep.).

Another thing to consider is that the pilot study reported in this thesis should be performed again to test for long-term retention, but only once the model has been refined. While CG student performance in the short-term was impressive, their long-term scores were disappointing, even though they were still higher than all other measures. Hence, repeating the count/mass test with a model that does not seem to generate retention might not be as advantageous as the applications of a revised model.

6.3. The case of the present perfect

Understanding the present perfect proved to be the toughest task for students. This should come as no surprise. While the present perfect tense is easy to recognize syntactically because it always takes either HAS or HAVE plus the past participle form of the main verb, semantically speaking, it is difficult to pin down. That is, defining what it means to have a verb phrase in the present perfect in semantic terms is a complex task. Since students were not tested on HAS/HAVE pattern recognition, they were forced to perform the complex task of

understanding what the present perfect means in the context of a sentence. Since the present perfect has a more complex temporal meaning, students had lower scores on these particular questions.

What *did* come as a surprise was the remarkable improvement the CG group made on the present perfect in both the post-tests and the follow-up tests. Since both the post-test and follow-up test scores were statistically significant, it can be said that CG offers a far more effective solution to the problem of teaching the present perfect—both in the short term and in the longer-term. Remember, too, that the mini-lesson was used. So the impressive results of the CG learners on the matter of the present perfect show this CG mini-lesson to be ideal for any L1 teacher struggling with the perfective.

6.4. How the grammar tests “mean”

While it is certainly outside the scope of this thesis to indulge in speculation about the effects of this model on student writing, one cannot help but wonder. As noted in Chapter 2, Traditional Grammar has been shown to have no effect on writing whatsoever. Of course, the tests that are reported here suggest not only that said ineffectualness of Traditional Grammar instruction on writing is accurate, but entirely unsurprising. After all, why should we be shocked when students fail to apply what they have “learned” when they haven’t, in fact, learned the material? But with CG there is at least some evidence of learning and retention, both of which are prerequisites for application.

As stated in the previous section, the perfective and progressive tenses are easy to recognize syntactically because they always take a specific auxiliary and tensed form of the main verb; however, recognizing what the tenses inherently mean—their schematic semantic content—is more difficult. Thus, for students, it is a complex task. So, the students were not tested on syntactic pattern recognition, they were forced to perform the complex task of understanding what the tenses meant in the context of a sentence. While no claims are made here about the applicability of grammar instruction to writing, it can be said that this type of “semantic” task seems at least more conducive to application to writing. To be successful on the grammar tests used in the experiments reported in this thesis, students must be aware of what it *means* to use one tense instead of another. They must raise their awareness of word choice, and if grammar instruction were to affect writing positively, then it would have to be done in ways that would raise student awareness of the various meanings of language choices. With this in mind, I would like to posit that future CG instruction needs to embrace models that require students to make choices based on an understanding that the choices will affect the meaning and interpretation of a sentence.

6.5. Future research

There are a number of possibilities for further application and refinement of the model of CG instruction used in the experiments in this thesis. A useful further

test of this CG mini-lesson model of boundedness grammar instruction would be an application to L2 pedagogy. Some Ph.D. students of Martin Pütz are conducting research on the boundedness model of tense/aspect instruction, but that model is based on semester-long instruction and differs substantially in method. It is quite possible that their results will show positive long-term retention, but one wonders how much instruction such retention would have required. By placing successful CL/CG pedagogical application in L1 and L2 under the same umbrella, it could be then stated that CG's claim to a more systematic, accurate and accessible account of language appears to have merit. So ultimately there might need to be some collaboration between models. However, in L1 pedagogy retention may or may not prove to be the problem it is for L2 learners. While the longer-term results of the experiments reported here are at best optimistically neutral, future models in both L1 and L2 will ultimately need to address the issue of retention—for better or for worse.

The dubiousness of longer-term retention in these experiments is not the only caveat. The narrowness of the CG model offered here is possibly the largest obstacle to overcome in future research. With such narrowly focused models in our experiments, it is impossible to make definitive judgments about the generalizability of the results. This is because, apart from the case of the count/mass distinction and the perfective/progressive distinction (both exclusively in English), the effectiveness of this model cannot be ascertained for grammar instruction at-large if based only on the experiments in this thesis.

In addition to being too narrow in grammar focus, another weakness of these experiments is that they are not a part of a larger system of grammar instruction. That is, more students, teachers, and types of handouts are needed in future experiments. For instance, during an entire semester, students could be given CG handouts in sequences that are thematically linked for optimal learning. Coordination with multiple instructors, some distributing Traditional Grammar handouts, some distributing CG handouts, would generate lots of data in short-term and long-term testing. However, such coordination requires rather rigorous adherence to an instruction schedule in order to preclude the effects of disparate instructional methods outside of the handouts.

Of course, further research is necessitated by the results and points discussed here. In order to make a definitive conclusion on the matter of whether or not grammar instruction based in CG is generally more effective than instruction based in Traditional Grammar, there need to be modifications to the model and reapplications of it in experimental settings.

7. Conclusion

The goal of the research and experiments in this thesis was to test two hypotheses—one partially and another completely. Firstly, after revisiting some of the classic research in the area of L1 grammar pedagogy, it was argued that the failures of previous grammar instruction did not prevent some teachers from including *some* level of grammar instruction. This is the point that McQuade (1980) makes; teachers often feel some obligation to teach grammar, regardless of the evidence. In light of “the grammar habit,” it was argued first that if teachers are going to carry on teaching grammar, they need to be better equipped. Teachers need a more accessible and accurate grammar. Because CG offered both, it was hypothesized that grammar instruction couched in the framework provided by CG would be more effective than grammar instruction using Traditional Grammar methods. Of course, proving this hypothesis as a general rule would necessitate volumes of work far beyond the scope of this thesis. Therefore, to support this first hypothesis, a second hypothesis was made.

This second hypothesis asserted that the CL/CG boundedness model would provide a more effective instruction method for learners and result in superior student performance. Testing boundedness meant testing the count/mass distinction and the perfective/progressive tenses. A pilot study was performed on the count/mass distinction in which students instructed with CG outperformed students with Traditional Grammar instruction by a statistically significant

margin. Then, two identical experiments on the perfective and progressive tenses in English were carried out. The results again indicated that CG instruction resulted in better student performance than those achieved by Traditional Grammar instruction. The success of CG over Traditional Grammar was statistically significant in these experiments, too. Hence, the second hypothesis was confirmed. This confirmation provided additional support to the wider hypothesis that CG is generally more effective as a pedagogical grammar than Traditional Grammar.

With this in mind, some discussion on the implications of the results was given. Special attention was given to the strengths of the tested model as well as to the caveats. The “power” of the *boundedness* model was emphasized, and the difficulty in generalizing the pedagogical success of the model to all pedagogical applications of CG was also discussed. There was also brief coverage of the accessibility of the mini-lesson structure. The narrowness of the model and the lack of an approach to instructing grammar-at-large meant that the model was not strong enough to single-handedly demonstrate definitively that CG is more pedagogically effective than Traditional Grammar. However, the fact is that such drawbacks often occur in experimental research, and this precise constraint was anticipated well in advance of testing. Therefore, the problem of narrowness was neither a debilitating nor a surprising limitation.

While there is ultimately no agreed-upon role for grammar instruction in L1 pedagogy, the contribution of this thesis suggests that a new approach to grammar instruction may be emerging. It goes without saying that the role of

grammar may never be settled. Yet, this does not deter research. In fact, it acts as an impetus. Replications of the experiments in this thesis on L2 learners, variations on these experiments that look at whether this model can improve writing, and new grammar handouts based in CG are all necessitated by the results of this thesis.

What *can* be agreed upon is that the CG model of instruction for the count/mass distinction and perfective and progressive tenses enriches learning. The model provides a more effective alternative to teaching Traditional Grammar. Arguably, the CG mini-lesson is a less intrusive method of grammar instruction than much of the Traditional Grammar instruction that occurs in the classroom.

At any rate, the discussion is in no way exhausted. There is still much to be ascertained and refined if we are to convincingly conclude anything about the optimal methods and modes of grammar instruction. The tools provided here, coupled with some explanation of their benefits and limitations, promise an expanding field of research—not a shrinking one.

Undoubtedly there will be many other models suggested, and quite possibly there could be significant variations and amendments to this model. In any case, the larger goal of investigating the effectiveness of CG as a pedagogical grammar needs to be in our sights. For the time being, the model offered here will have to suffice as *the model* for CG instruction in L1 pedagogy, and for now, it does not fare badly in that role.

Appendix

Count/Mass Test

Pick whether the nouns act as count or non-count in these sentences.

1. I haven't had much difficulty.

Difficulty is count non-count

2. My wife is getting old enough to have gray hair.

Hair is count non-count

3. I have seen the light.

Light is count non-count

4. Misery loves company.

Misery is count non-count

5. We have coffee on the menu.

Coffee is count non-count

6. He turned to stone.

Stone is count non-count

7. Tonight's special is steak.

Steak is count non-count

8. I didn't have much trouble.

Trouble is count non-count

9. Joan was a beauty in those days.

Beauty is count non-count

10. You can buy a whole lot of car with that money.

Car is count noun-count

Count/Mass CG Handout

Count Nouns (Bounded):

-a clear boundary (are bounded).

-i.e., "computer"

A computer has a clear boundary.

Non-count Nouns (Unbounded):

-refer to objects with unclear or "fuzzy" boundaries.

-i.e., "love" doesn't have clear boundaries.

-often refers to objects that have a homogenous structure.

-i.e., "water" is made up of drops of water. You can take water from water and you still get water. You can add water to water and you still have water. (Whereas, if you take a computer apart and it is unable to be put back together, its identity as a computer is destroyed—it is now just electronic parts.)

Consider these examples:

- 1.) I have five steaks in the freezer.
-In this example, "steaks" is a count noun because the context uses clearly bounded items—five steaks that are distinguishable from one another.

- 2.) We have more steak than you can imagine.
-In this example, "steak" doesn't refer to a countable steak, but an unbounded quantity, an amount whose detail is unspecified or fuzzy.

Helpful hints:

-Things such as gases (air, carbon dioxide), fabrics (cotton), and liquids (water) are often non-count.

-Keep in mind that whether a noun is count or not is based on the needs and interests of the speaker/writer. So many nouns can be either count or non-count depending on the statement. "The house is made of brick," shows *brick* as a general, unbounded substance. On the other hand, "Hand me that brick," shows *brick* as a bounded, individuated object.

-So the most important question to ask is "are the boundaries of this object clearly marked in this statement?" That is, are you dealing with the generic use of the term, or specific situation where things are clearly bounded and countable? Whether or not a noun is count or non-count is a matter of the point-of-view a speaker chooses (ie., "The water gets dangerous downstream." vs. "There are rough waters ahead.")

Count/Mass Traditional Handout

Count Nouns:

-refer to something that can be identified as a separate entity; and can be signaled by the indefinite article, "a", and numbers (*a boat, two boats*).

-ie., A boat should be fast.

Boat is a count noun, not only because it is an identifiable, separate entity, but also because it is preceded by "a".

Non-count Nouns:

-refer to what might be called an undifferentiated mass or something continuous—such as *water, time, love, oxygen*.

-ie., I like drinking water.

Water is non-count, because it is an undifferentiated mass.

Note that in this example you wouldn't say, "I like drinking waters." Even though drink water involves consuming multiple molecules of water, we still say water.

Consider these examples:

- 1.) I have five steaks in the freezer.
-*In this example, "steaks" is a count noun because it is identifying separate entities that are countable.*
- 2.) We have more steak than you can imagine.
-*In this example, "steak" doesn't refer to a countable steak, but a non-countable, undifferentiated quantity of steak.*

Helpful hints:

-Things such as gases (air, carbon dioxide), fabrics (cotton), and liquids (water) are often non-count.

-Many nouns can be count or non-count, depending on their context. "The house is made of brick," shows *brick* as a general, non-countable entity. On the other hand, "Hand me that brick," shows *brick* as a countable, individuated object.

-There are many exceptions to the above rules that a native speaker will be familiar with. However, if you encounter an unfamiliar noun, then the best test to determine whether it is count or not is to figure out whether or not you can use it with the indefinite article "a." If you can, the noun is countable.

Tense Test

- (A) Present Perfect
- (B) Past Perfect
- (C) Present Progressive
- (D) Past Progressive

Select the proper tense for the italicized verbs.

- 1.) Lucy *is singing* the piece she sung earlier in the show. _____
- 2.) Bob *was going* to the mall when he bumped into Sally. _____
- 3.) Jessica and I *have dated* for a while. _____
- 4.) Albert Bell *has scored* twice in the game. _____
- 5.) Sean *has gone* to the grocery store. _____
- 6.) William *was building* a shed for all his tools. _____
- 7.) I *had known* about global warming for a while. _____
- 8.) I *was fishing* for something to eat for dinner. _____
- 9.) Luigi *was walking* towards a big green pipe in the ground. _____
- 10.) He *is blinking* his eyes twice 'for no.' _____
- 11.) He *had stood* in the rain for ages, but his date never arrived. _____
- 12.) The underdogs *are stunning* their opponents. _____
- 13.) Louise *has shown* herself to be a great candidate for the job. _____
- 14.) We *have stood* here for two hours, waiting for the bus. _____
- 15.) Mark *was heading* to the restaurant when the storm hit. _____
- 16.) Alex *is learning* math. _____
- 17.) I *am standing* here until my bus comes. _____
- 18.) My niece *had walked* from one side of the room to the other. _____
- 19.) Jen *had played* tennis for nearly three years before quitting. _____
- 20.) Criticisms *had arisen* against the government. _____

CG Tense Handout Table

(A) Present Perfect Bounded action in past that is currently relevant	(C) Present Progressive Unbounded in present
(B) Past Perfect Bounded entirely in past	(D) Past Progressive Unbounded in past

Bounded: Is the verb construed as a process that has inherent boundaries?

If so, it is *bounded*.

Unbounded: Is the verb construed as a process that has inherent boundaries?

If not, it is *unbounded*.

Traditional Tense Handout Table

(A) Present Perfect – action that began in the past and is linked to the present	(C) Present Progressive – continuing action in the present
(B) Past Perfect – action that was completed before another past action	(D) Past Progressive – continuing action in the past

References

- Blakesly, David
 1995 Reconceptualizing grammar as an aspect of rhetorical invention. In Hunter, S., and R. Wallace (eds.), *The place of grammar in writing instruction*. Portsmouth, NH: Boynton/Cook, 191-203.
- Boers, Frank
 2000 Metaphor awareness and vocabulary retention. *Applied Linguistics* 21 (4), 553-571.
 2004 Expanding learners' vocabulary through metaphor awareness: What expansion, what learners, what vocabulary? In Achard, M., and S. Niemeier (eds.), *Cognitive Linguistics, Second Language Acquisition, and Foreign Language Teaching*. Berlin and New York: Mouton de Gruyter, 211-232.
- Braddock, Richard, Richard Lloyd-Jones, and Lowell Schoer
 1963 *Research in written composition*. Urbana, IL: National Council of Teachers of English.
- Brown, Steven, and Salvatore Attardo
 2005 *Understanding language structure, interaction, and variation: An introduction to applied linguistics and sociolinguistics for nonspecialists*, 2nd edition. Ann Arbor: University of Michigan Press.
- Byrd, Patricia
 1998 Rethinking grammar at various proficiency levels: Implications of authentic materials for the EAP curriculum. In Byrd, P. and J. Reid (eds.), *Grammar in the composition classroom: Essays on teaching ESL for college-bound students*. Boston: Heinle & Heinle, 69-97.
- Calkins, Lucy
 1986 *The art of teaching writing*. London: Heinemann.
- Celce-Murcia, Marianne
 1991 Grammar pedagogy in second and foreign language teaching. *TESOL Quarterly*, 25(3), 459-479.
- Connors, Robert, and Andrea Lunsford
 1988 Frequency of formal errors in current college writing, or Ma and Pa Kettle do research. *College Composition and Communication*, 39(4), 395-409.
- Cray, Ellen
 2004 Grammar in the language classroom: changing approaches and practices. *The Canadian Modern Language Review*, 61(2), 283-285.
- Csábi, Szilvia
 2004 Polysemy in English and its implications for teaching. In Achard, M., and S. Niemeier (eds.), *Cognitive linguistics, second language acquisition, and foreign language teaching*. Berlin/New York: Mouton de Gruyter, 233-256.

- DeBeaugrande, Robert
 1984 Forward to the basics: Getting down to grammar. *College Composition and Communication*, 35(3), 358-367.
- DeBoer, John
 1959 Grammar in language teaching. *Elementary English*, 36, 413-421.
- Dirven, René, and Günter Radden
 1997 *Cognitive English Grammar*. Unpublished manuscript.
- De Saussure, Ferdinand
 1916 *Cours de linguistique générale*. Reprinted edition: (1983) *Course in General Linguistics*. Chicago/LaSalle, IL: Open Court.
- Elley, W.B., I. Barham, H. Lamb, and M. Wyllie
 1976 The role of grammar in a secondary English curriculum. *Research in the Teaching of English*, 10, 5-21.
- Evans, Vyvyan and Melanie Green
 2006 *Cognitive linguistics: An introduction*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Francis, W. Nelson
 1954 Revolution in grammar. *Quarterly Journal of Speech*, 40, 299-312.
- Hamrick, Phillip and Salvatore Attardo
 prep. An empirical test of cognitive grammar L2 pedagogy: Auxiliary selection in the Italian *passato prossimo*.
- Hartwell, Patrick
 1985 Grammar, grammars, and the teaching of grammar. *College English*, 47(2), 105-127.
- Harris, Roland
 1962 *An experimental inquiry into the functions and value of formal grammar in the teaching of written English to children aged twelve to fourteen*. Unpublished PhD dissertation, University of London.
- Hillocks, George
 1986 *Research on written composition: New directions for teaching*. Urbana, IL: National Council of Teachers of English.
- Howatt, Anthony
 1984 *A history of English language teaching*. Oxford: Oxford University Press.
- Huong Nguyen Thu
 2005 Vietnamese learners mastering English articles, Unpublished doctoral dissertation, University of Groningen, Netherlands.
- Kolln, Martha
 1981 Closing the books on alchemy. *College Composition and Communication*, 32, 139-151.
- Lakoff, George and Mark Johnson
 1980 *Metaphors we live by*. Chicago: University of Chicago Press.
- Langacker, Ronald
 2008 *Cognitive grammar: A basic introduction*. Oxford: Oxford University Press.

- Liu, Dilin & Peter Master
2003 *Grammar teaching in teacher education*. Alexandria, VA.: TESOL.
- Lowth, Robert
1762 *Short introduction to English*. London: J. Hughes.
- Macaulay, William
1947 The difficulty of grammar. *British Journal of Educational Psychology*, 17, 153-162.
- Matula, Suzanne
2008 Incorporating a Cognitive Linguistic Presentation of the Prepositions 'on', 'in' and 'at' in ESL Instruction: A quasi-experimental study. Unpublished doctoral dissertation, Georgetown University, Washington D.C., USA
- McQuade, Finlay
1980 Examining a grammar course: The rationale and the result. *English Journal*, 69, 26-30.
- Memering, Dean
1980 Forward to the basics. *College English*, 39, 553-561.
- Mullin, Joan
1995 The Use of Grammar Texts: A Call for Pedagogical Inquiry. In Hunter, S., and R. Wallace (eds.), *The place of grammar in writing instruction*. Portsmouth, NH: Boynton/Cook, 103-113.
- Murray, Lindley
1795 *English grammar*.
- Noguchi, Rei
1991 *Grammar and the teaching of writing*. Urbana: National Council of Teachers of English.
- Odlin, Terence (ed.)
1994 *Perspectives on pedagogical grammar*. Cambridge: Cambridge University Press.
- Priestley, Joseph
1761 *The rudiments of English grammar*.
- Sanborn, Jean
1986 Grammar: Good wine before its time. *English Journal*, 75(3), 72-80.
- Segal, D. and N.R. Barr
1926 Relation of achievement in formal grammar to achievement in applied grammar. *Journal of Educational Research*, 12, 401-402.
- Shuman, R.B.
1995 Grammar for writers: How much is enough? In Hunter, S., and R. Wallace (eds.), *The place of grammar in writing instruction*. Portsmouth, NH: Boynton/Cook, 114-128.
- Symonds, Percival
1931 Practice versus grammar in learning of correct English usage. *Journal of Educational Psychology*, 22, 81-95.
- Tomlin, Russell S.
1994 Functional grammars, pedagogical grammars, and communicative

- language teaching. In Odlin, T. (ed), *Perspectives on pedagogical grammar*. Cambridge: Cambridge University Press, 140-178.
- Tyler, Andrea, Yiyoun Kim, and Diana Marinova
2007 Applying cognitive linguistics to instructed L2 learning: English prepositions. Paper presented at the 10th International Cognitive Linguistics Conference, Krakow, Poland.
- Tyler, Andrea and Hiroshi Takahashi
2007 A cognitive linguistic approach to teaching the English modal. Paper presented at the 10th International Cognitive Linguistics Conference, Krakow, Poland.
- Weaver, Constance
1979 *Grammar for teachers*. Urbana: National Council of Teachers of English.
1996 *Teaching grammar in context*. Portsmouth, NH: Boynton/Cook.