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Linguistics in Secondary Education: Teachers' Perceptions of Linguistics in the Classroom

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LINGUISTICS IN SECONDARY EDUCATION:

TEACHERS' PERCEPTIONS OF LINGUISTICS

IN THE CLASSROOM

A Thesis

by

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ABSTRACT

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Theoretical linguistics is an area of English study focusing on the abstract components of language: phonology, morphology, syntax, semantics, and pragmatics. By 11th and 12th grade, students in the United States have been tested on linguistic concepts, as per state examination standards. English Language Arts teachers can introduce theoretical linguistic investigation and terms to their students, but this is not happening. The paper reviews why theoretical linguistic analysis is not thoroughly implemented in classrooms, successful classroom linguistic investigation in other countries and some U.S., and how linguistic investigation can be part of classroom curriculum. The research incorporates survey data from Rio Grande Valley ELA educators on their perceptions on linguistics a science, the usefulness of linguistics in the classroom, the desire to teach linguistics, and environmental factors that play a role in linguistic education. Results show responses in agreement or toward agreement in all four perceptions.

DEDICATION

To the four women who raised me. This work is just as much yours as it is mine.

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CHAPTER I

INTRODUCTION

If one asks a senior level student in public secondary education for the definition of *linguistics*, chances are this will be the first time the student hears the word *linguistics* much less know its definition. It is not only the high school population that would not know the definition; most people seem to not know what linguistics is (Lidz & Kronrod, 2014, p. 450). Though teachers at the high school level have introduced the concepts of linguistics in terms of sentence rules and word parts to their students, the teachers may not inform their students of the linguistics field and its researchers who study and analyze those sentence patterns nor discuss the areas linguistics has to offer.

Not knowing of the linguistics field is concerning because most public primary and secondary schools expose students to areas of medicine, science, technology, engineering, and mathematics (STEM) as fields that lead to more job opportunities and research accomplishment. Because of that heavy influence, students may find those fields more appealing and prestigious than Liberal Arts fields when enrolling in colleges or universities. In addition to the lack of linguistic information given to students, grammar teachings are associated with the “boring” parts of English classes, which then lead students to lack interest in the information and concepts needed to understand language usages (Thekes, 2015, p. 206). Also, according to Domm (2007):

> Historically, when language was taught as a subject in school it was taught as prescriptive grammar—correction and drills on 'proper' language usage without a context, without explaining to students why they might need to learn a new linguistic code. The ineffectiveness of this approach resulted in boredom, an intense dislike of grammar, and an eventual turning away from language as an object of study. (p. 22-23)

Generally, language teaching focuses on the structure of a language, rather than how speakers use the language; this leads educators to focus on students' errors in English structure rather than how the student learns or actually uses the language with peers and family (Nicholas & Starks, 2014, p. 6). However, researchers in the field of linguistics focus on finding the histories of languages, creating language policies for minority and majority languages, researching language acquisition in children and adults with disabilities, acquiring more knowledge in cultural diversity, in addition to documenting and saving endangered languages and cultures.

The list of benefits in the linguistics field goes on with linguists knowing more about cultures and languages. They can then share that knowledge with communities and societies of minority and majority languages with a goal of fighting cultural and language discrimination. In addition, many occupation opportunities are available for linguists including areas in language education, speech-language pathology and audiology, forensic linguistics, language in advertising, codes, and code breaking (Mihalicek & Wilson, 2011, p. 648). Authority figures do not readily mention those benefits in high school, unless students ask or research what they can do with an English degree; even at that, linguistics may not be one of the topics that students will readily understand if read on a website.

Concepts of Linguistics

Before going into the questions this paper attempts to answer, a few definitions and concepts need to be explained and clarified. There are two types of grammar involved in teaching: prescriptive grammar and descriptive grammar. *Prescriptive grammar* involves the grammar explained in textbooks and is considered the "standard" in writing. Prescriptive grammarians tend to correct students' writings with the following guidelines such as: *Do not split infinitives; Do not end a sentence in a preposition; Do not start sentence with because.* These rules are what some believe to be acceptable across all writing and speaking environments, but not all speakers and writers ought to follow or know about these rules.

Descriptive grammar is an observation of what people do with language in real life, and descriptive grammarians document and allow for people's varying uses of language in writing. Though these language usages are noted on how they differ from the standard/prescriptive rules, writers and speakers need to be able to communicate effectively, meaning common language rules are needed for mutual understanding. Therefore, prescriptive and descriptive grammar can be intermixed amongst speakers and writers depending on the audience and immediate cultural and language communities.

The section of linguistics discussed and researched in this paper is theoretical linguistics. This type of linguistics involves the teaching, researching, and analytical thinking of the five areas of language: phonology, morphology, syntax, semantics, and pragmatics. *Phonology* concerns phonetics (speech sounds and the International Phonetic Alphabet) and analyzes allowable language sound patterns. *Morphology* deals with parts of words, along with analyzing and identifying how added or deleted affixes alter a word's root meaning. *Syntax* focuses on identifying parts of speech and determining how groups of words form sentences by using tests

and patterns. *Semantics* covers the meaning of our messages with the use of dictionary denotations and cultural connotations at the word, phrase, and sentence level. *Pragmatics* involves analyzing the use and appropriateness of our messages in certain situations and with certain populations. Linguists refer to these areas as the foundations of language since all of those areas connect to research in language studies and language acquisition. Curriculum designers and educators mention and teach, respectively, all of those concepts at the primary and secondary school level, but the concepts' scientific terms are not normally used.

With the previous statement in mind, one can try to figure out where theoretical linguistic components are hiding in traditional curricula. Starting in elementary classes, students are taught parts of speech around the time they begin writing or building vocabulary words in class. Parts of speech teaching continues all through their education with advanced and complex words or sentences to form mature ideas on paper. Because of all this review, most students are familiar with the terms *phonics*, *affixes*, *roots*, *sentence*, *parts of speech*, *meaning of phrases*, and *use of language* (in context of conversation). *Affixes* and *roots* are components of morphology, and students do a simple form of morphological analysis when using and reviewing the meaning of affixes, such as *re-* means *do again*. If they want to articulate that they want to do something again, they may try to add *re-* before the verb, as in *resend, retype, reinvent*. By doing this, they are partaking in theoretical linguistic analysis in its simplest form: hypothesize, test if it works, accept or reject the new word.

This is when teachers should begin informing their students about theoretical linguistic concepts in the way linguistic researchers view those concepts; this would be similar to the way most STEM teachers educate students in the subjects of math and science. Public school English Language Arts (ELA) teachers would have to reframe their teaching strategies, while language

education teachers, or English as a Second Language (ESL) educators, would have to become more technical in their teaching strategies to help ESL students think more critically about their new language. Nicholas and Starks (2014) offer one difference in mindset from a language teacher from a linguist:

> … [L]anguage teachers often use humming and/or gesture as a means of teaching stress and intonation and point out the connections between body posture, eye contact, confidence and effective communication. While linguists often go to great lengths to argue that certain features (or combinations of features) constitute language and only those are the subject of study, language educators see language learning as part of a larger communicative process and the methods that they use extend outside any strict view of 'language'. (p. 9)

Both educators and linguists note language education should cover effective communication, and learning a language should come with more than only knowing the surface "standard" meanings behind colloquial phrases, words, and overall usage.

This is one reason linguistic education in the classroom is important. Linguistic teaching can lead to students thinking about the rules and patterns of English to further investigate language and eventually question its oddities, instead of just following and accepting the rules. In addition to the investigations, if ELA curriculum designers and educators implement and teach, respectively, the linguistic concepts in an alternative way from what the students are familiar with, the topics and classes of English would not be so redundant at the 11th and 12th grade levels.

For example, students need to know accurate punctuation placement, and linguistic components are hidden in those concepts. Use the following sentence as an example: *The*

graduate student finished her syntax homework. A grammar rule states not to place a comma between a subject and its predicate. In order for someone not to break that rule, he or she needs to know the subject and predicate of the sentence. If those terminologies and definitions are not known, a person could write the following: *The graduate student**,** finished her syntax homework*. Fortunately, teachers use terms such as *subject* and *predicate* in their teaching, meaning theoretical linguistic concepts are already in place. With an introduction to syntax language patterns, phonology patterns, semantics, and pragmatics, students could see linguistics as more of a researchable field before graduating high school and consider linguistics as a choice of study.

Personal Experience and Observations

I took an Introduction to Descriptive Linguistics course as part of my English minor at The University of Texas-Pan American, one of The University of Texas Rio Grande Valley's (UTRGV) legacy universities. The concepts of the course greatly helped in the Communication Sciences and Disorders (COMD) program as phonology, syntax, morphology, semantics, and pragmatics are the main areas speech therapists need to know to identify in people with speech and language disabilities. However, most of my COMD classmates were not exposed to those areas of language, in respect to theoretical linguistics, since the course I took was, and still is, not a COMD course requirement (The University of Texas Rio Grande Valley, 2016a). I saw my classmates struggle and stress with identifying adjectives, types of verbs, and pragmatic communication patterns in required language analysis projects. The professors expected students to know those concepts since students were in the junior level of college, and complete information on how to identify those parts of speech was not given for the sake of class time.

At the graduate level, I took Introduction to Descriptive Linguistics for Teachers where most of the students were already educators ranging from ESL education to secondary education

in bilingual Spanish-English environments. In that course, though the educators knew the words *adjective, adverb, prefix,* and *suffix,* they had a difficult time with some of the class homework assignments in the areas of syntax and morphology. The professor and textbook provided tips for them to teach the concepts, and the students themselves were learning along the way. Those educators in my graduate level course did not know the technicalities of the rules themselves because they, too, followed guidelines and rules from their educational experience, and, possibly, from current curricula expectations.

In 2016, I also surveyed 26 out of 30 junior and senior level students in an Introduction to Descriptive Linguistics course. I asked them questions on: their definition of linguistics before taking the class, their majors, and career goals. I also gave them a chance to identify parts of speech and to count morphemes after seven weeks of being in the course. Only two students knew the definition of linguistics before taking the course, most were Education and English majors wanting to become teachers of varying grade levels, less than half of those students could correctly identify parts of speech given a sentence, and most used syllable knowledge to count morphemes.

From August 2017 to May 2018, I was a teaching assistant to that same course with a crop of my own roughly 100 students. Knowing about the previous students' responses to the survey and my observations of the use of linguistics outside the classroom, I tailored some class material to the future educators, mainly syntax and morphology. This strategy was to get them thinking of how they learned the structures of their own language(s) and how to explain those structures to their future students. The students found themselves struggling with answering basic parts of speech questions and analyzing word parts. To not leave them disheartened, I tried my best to encourage them to at least be able to simply explain why nouns are nouns, why we

use certain words in writing but not in speech, and why adding *–ly* turns most words into adverbs. It was mainly to stop the cycle of answering "Because that's what the book says" or "Because I say so" to students who have genuine interest in language patterns.

I also required the students to write an essay on how linguistics is beneficial for their future career or how they think linguistics is beneficial to society. Students briefly mentioned that this was the first time they had heard of linguistics, and they felt it was useful in schools and ESL students. Some self-proclaimed ESL students made some personal language learning observations. They believed knowing syntax, phonology, morphology, and semantics would have greatly helped them acquire English better and more comfortably than just learning words and passing tests, especially since they learned more from social interaction than textbook drills.

Not knowing parts of speech at the junior level of college showed that something possibly went wrong in primary or secondary ELA classes. As mentioned, an idea was that learning patterns of language, indeed, became so trivial that students were not learning those concepts effectively. Students possibly followed the general definitions of the parts of speech but did not know how to apply that information in order to explain it.

The argument over the importance of linguistics can go on, but a realistic idea of how students and teachers have successfully passed tests and grade levels without knowing linguistic concepts is probably in the minds of many school administrators, textbook editors, teachers, and curriculum designers. That being said, I do understand the ongoing debate of whether linguistic knowledge and grammar is important for students of all grade levels. One even greater debate is whether grammar teaching correlates to good writing skills.

Even at the university level, there is the question as to whether or not professors or peer reviewers should consider grammar construction when grading papers or offering advice on an

essay since content is higher on the hierarchy of writing. Some professors hold grammar in high esteem and give students lower grades because the student's grammar is weak, while other professors look at the overall idea of the essay and perceive grammar as a minor element in writing. Currently, translingual pedagogy is on the rise in writing curricula where students' personal language(s) use can be used in their writing to empower students to focus on the ideas of the paper, not grammar. Generally speaking, through the translingual theory, a student's writing can consist of code switching and minimal errors to where the reader can still understand the writer's message. Peer reviewers, such as writing tutors or a student's fellow classmates, may want to make comments on grammar construction either because the constructions impede on understanding the information or because, in classmate cases, they do not really know what to look for in writing beyond grammar since grammar was a major feedback component in high school.

Further, from experience as a writing tutor, some student writers think they do not need to know grammar because their current major or career does not require a lot of writing. To them, having someone else edit and review their papers in order to pass a writing class is quicker than reviewing their old grammar notes or looking up the rules on their own. On the other hand, students who call themselves "bad writers" mainly see grammar as their cause of being a "bad writer" because their high school teachers would give them low grades on essays due to the grammar errors.

Fearn and Farnan (2007) have a question in relation to the topic: "Is there a way to teach grammatical structures that will satisfy high-stakes tests and teachers' needs, and at the same time, positively affect writing performance?" (p. 64). The question was then reframed to "Will teaching sentence parts in writing affect students' writing performance?" (Fearn and Farnan,

2007, p. 66). They compare a classroom using identification, definition, and description instruction, abbreviated IDD instruction, with a classroom using functional grammar teaching, a topic to be discussed later. The authors explain what many linguists experience as they ask students "What is a verb?" After receiving a student answers, the authors then throw in the word *running*, both used as an adjective and a verb, in this case. Students had a difficult time processing that *running* could be an adjective because their IDD teaching strategies were not helping them (Fearn & Farnan, 2007). This one study found teaching grammar with writing helped with writing performance, while teaching grammar for writing did not help or decline writing performance.

So, the debate continues and students' points of view on grammar is either positive or negative, leading them to either enjoy writing or struggle with it. Could linguistic instruction and knowledge have helped those students? We will most likely never know. What we do know is that many generations of high school and college/university students have successfully survived writing and other English courses without knowing what linguistics and its concepts are. We also know many generations of those same student populations have dealt with language and culture discrimination, word and phrase choice errors, foreign language writing issues, and confusion with writing/grammar rules when definitions and textbook structures do not make sense, even to native speakers of a language. Those are the student populations that need to know research is out there in their favor and researchers understand their identities, culture, language(s), descriptive grammar, and struggles. Language and culture diversity, open-mindedness in grammar constructions, and information on common sound and word errors could help those ESL adolescents and teenagers in a monolingual English world feel included in the classroom

and, possibly, have a sense of comfort knowing their classmates are learning about varying cultures and traditions.

Bilingual Environments

Many other factors could have contributed to lack of syntax education, such as English language learning status or lack of intrinsic motivation to learn English patterns. With those factors in mind, another issue regarding linguistics and language pattern knowledge revolves around ESL students and English language learners (ELL). The classes and university previously discussed so far are based on experiences and results from students growing up and remaining in a college in the Rio Grande Valley, a section of Texas close to the United States- Mexico border, a land rich in two cultures and Spanish-English bilingualism. From 2009-2013, the population of Texas estimated about 27 million people with about eight million of those residents speaking languages other than English at home and almost seven million residents speaking Spanish at home (United States Census Bureau, 2015a,b). Counties in the Rio Grande Valley, consisting of Cameron, Hidalgo, Starr, and Willacy, have a population of residents who speak languages other than English at home ranging from 51% to 94%, with Willacy at 51.8% and Starr at 94.4% (United States Census Bureau, 2014).

Sometimes learning English is difficult for students entering U.S. classrooms at varying grade levels, especially when schools use the terms and rules of “proper” or “good” grammar. Linguistics offers language comparison opportunities that can allow students to learn English patterns and how they differ from Spanish language patterns, which could make students feel their language is just as important as English, even in a country where language education focuses more on monolingual English writing standards. Linguistic knowledge can also open

hypothetical doors to cultural education and research, connecting with the ongoing translingual pedagogy.

Research Questions

Schools not utilizing theoretical linguistics, along with its other researchable benefits, led to the following questions to find reasons high school students in the United States do not know about linguistics as a field of study, specifically in the RGV. Since ELA educators are at the forefront in explaining language rules to their students, the questions ask about teacher knowledge and perceptions about linguistics in their classrooms. The paper aims to answering the following questions:

Do teachers perceive theoretical linguistics as a science?

Do teachers perceive theoretical linguistics as useful in the classroom?

Do teachers desire to implement theoretical linguistics in the classroom?

Do environmental factors influence theoretical linguistic education in public schools?

These research questions all focus on linguistic education in high school for administrators, teachers, and students since the field of linguistics discusses language pattern analysis, which connect to grammar rules students need to know for state exams. One goal is to use the results to help start a conversation for the implementation of linguistic education in secondary education classrooms. The overall outcome of that implementation would be for students to appreciate and engage with language learning and use the information given to assist in writing and reading opportunities. Secondary goals are to highlight the successes when educators and designers use linguistic concepts in classrooms and to offer ideas on how secondary education curricula can include linguistic investigative analysis.

CHAPTER II

LITERATURE REVIEW

In reviewing the literature on teaching linguistics in secondary education, there appears to be agreement amongst researchers that early linguistic teaching positively benefits students in their junior and senior years of school. Additionally, students could engage in active learning involving languages and patterns not thoroughly discussed in traditional language arts classrooms. ESL students may also benefit from classrooms centered on linguistic research since language comparisons, and cultural discussions would take place, allowing them to feel more comfortable learning and knowing their primary language would be met with acceptance, not with removal.

In the Rio Grande Valley, most students speak languages other than English at home (United States Census Bureau, 2014). These students attend public schools where writing and grammar teachings are based on traditional, standardized, monolingual English language prescriptive grammar rules. One curriculum purpose is to have all students pass a state mandated exam, which includes questions regarding English writing organization and definition knowledge, rather than allowing students in a bilingual region to use their language backgrounds while reading and writing in the classroom. With these factors in mind, the students and teachers of the Rio Grande Valley would benefit from this current research to help ESL students understand English language patterns, language of origin information, and skills to learn and

compare language patterns.

The following information consists of research from articles regarding linguistics in education programs and in high schools not only from the United States, but also from Europe and Australia, where linguistics has grown due to its positive effects on students and educators. The articles range from 2007 to 2016. In addition to articles, The Texas Education Agency and the Texas Higher Education Coordinating Board websites provide information about Texas high school curriculum. The literature review divides into six themes found in the articles:

1) Education Policies and State Examination Factors;
2) Misconceptions, Standards, and Perceptions of Linguistics;
3) Outside School Linguistic Education Programs and Their Usefulness;
4) The Usefulness of Linguistics in the Classroom;
5) Teachers: Their Factors and Desire to Teach Linguistics; and
6) Useful Linguistic Approaches, Methods, and Designs from a Linguistics as a Science Perspective.

The literature review themes aim to find answers and information to this study's research questions:

Do teachers perceive theoretical linguistics as a science?

Do teachers perceive theoretical linguistics as useful in the classroom?

Do teachers desire to implement theoretical linguistics in the classroom?

Do environmental factors influence theoretical linguistic education in public schools?

Education Policies and State Examination Factors

Thus far, this paper has briefly mentioned secondary school education curriculum. The curriculum is state mandated, at least in Texas. Many major organizations are involved in

creating those curricula and making sure the policies correlate to state stakeholder and teacher beliefs; two of those agencies include the Texas Education Agency (TEA) and the National Council of Teachers of English (NCTE).

The NCTE, the professional organization of teachers since 1911 (NCTE, 2008), has many statements on what should be encouraged in the ELA classroom, and those statements have been updated for many years. The statements and agreements of the NCTE begin based off political changes in education and in society at the time of publication. The organization offers its stance(s), solutions, and strategies of how to implement activities in the classroom that show support of those stances and beliefs. In the NCTE's (2005) list of beliefs, two beliefs standout in connection to language learning and linguistic education:

> Belief 4: Students have a right to a variety of educational experiences that help them make informed decisions about their role and participation in language, literacy, and life.
>
> Belief 6: All students need to be taught mainstream power codes/discourses and become critical users of language while also having their home and street codes honored.

The statement webpage discusses what the two beliefs entail and offer K-12 classroom activities to help students achieve those lessons. Among review of the suggested activities for Belief 4, none of them mention a linguistic analysis approach, only a review of autobiographies, creation of personal cultural texts, and comparing actual historical headlines to cultural stories (NCTE, 2005). Activities for Belief 6 show a closer connection to linguistic analysis with the following activity: "Have students become ethnographers into language, recording and analyzing the ways language plays out in their lives" (NCTE, 2005). Within Belief 6, the organization does

touch on the question of how to teach this belief while also following the standard monolingual "prestige dialect" of English for teaching native speakers of English and second language learners. They state, "...our dilemma: how do we offer both groups ample opportunities to learn and practice their usage of this 'prestige dialect' while at the same time recognizing the communicative equality and linguistic validity of their home dialects and languages?" (NCTE, 2005).

By 2008, the NCTE begins to find an answer to their dilemma by opposing "…attempts by state legislatures to dictate curriculum, curricular materials, and/or teaching and learning strategies that exclude language-minority students from academic success, so that English language learners have access to the best resources for their needs" (NCTE, 2008). That opposition could allow new ways to incorporate minority language study in classrooms where language-minority students can have better resources to learning English from the linguistic perspective. Based on current and past reflections, the organization opens the teaching of its beliefs to the educators to "…choose, create, appraise, and critique their own responsive and responsible teaching and learning curriculum" (NCTE, 2005), leaving room for linguistic education in the classroom in connection to Belief 4 and 6.

Further, the NCTE has standards for English Language Arts curriculum that detail what "students should know about language and should be able to do with language…" in regards to reading, writing, listening, speaking, viewing, and visual representation (NCTE, 2012, p. 1). The organization also states those standards allow room to integrate innovative and creative ways of teaching those standards (NCTE, 2012, p. 2). In addition, the NCTE and the International Reading Association encourage students to ask "Why?" in order to become adequate and knowledgeable language users, leading to standards 7 and 9:

7. Students conduct research on issues and interests by generating ideas and questions, and by posing problems. They gather, evaluate, and synthesize data from a variety of sources… to communicate their discoveries…

9. Students develop an understanding and respect for diversity in language use, patterns, and dialects across cultures, ethnic groups, geographic regions, and social roles. (NCTE, 2012, p. 3)

Linguistic education and analysis in the classroom can help accomplish these two standards beyond passive learning and allow students to actively learn and investigate languages, dialects, and cultural differences. Teachers thoroughly explaining the answers to students' "Why?" questions could open the discussion of language variation and change. However, in order meet those standards, follow those beliefs, and use linguistic education in the classroom, there are four factors schools need to meet: "learning how to learn, equal access to school resources, adequate number of knowledgeable teachers, and safe, well-equipped schools" (NCTE, 2012, p. 9). Those first three factors end up becoming barriers when students do not know how to apply and think through their knowledge because they are used to textbooks giving them the answers, when not all available resources are attainable for all students, and when teachers do not feel comfortable teaching linguistic information.

In reference to state examinations, by the fourth grade examination period, The TEA (2015) states students must

> …use and understand the function of …(i) verbs (irregular verbs); (ii) nouns (singular/plural, common/proper); (iii) adjectives (e.g., descriptive, including purpose: *sleeping bag, frying pan*) and their comparative and superlative forms (e.g., *fast, faster, fastest*); (iv) adverbs (e.g., frequency: *usually, sometimes*; intensity: *almost, a lot*); (v)

> prepositions and prepositional phrases to convey location, time, direction, or to provide details; (vi) reflexive pronouns (e.g., *myself, ourselves*); (vii) correlative conjunctions (e.g., *either/or, neither/nor*)...(pp. 4-5)

According to the TEA (2017a), English I, II, III, and IV courses require information on linguistic concepts of roots and affixes. However, linguistic concepts go beyond morphology, and students need to also know types of verbs, types of tense, active or passive voice, clauses, sentences, and pronouns in order to use that information in their required writing, as per Texas Essential Knowledge and Skills, or TEKS (Texas Education Agency, 2017a). After all their repeated English courses, students in their senior year of high school should know all those concepts, but the information retention is another area of study. Educators teach this information to their students, but, possibly, not in terms mentioned since terminologies can get confusing or overwhelming for students who do not really take the field of English seriously. Further, ideas of syntax and morphology could be useful in writing feedback strategies from educators as well. By doing this, teachers could review sentence and word usages rather than mark writing as "wrong" or solely give out grades. With morphology and syntax diagramming, students could actually be involved with sentences and words they want to use in their writing, which can be more effective to where teachers would not focus too much on prescriptive grammar rules.

A possible explanation to why high school educators do not thoroughly discuss the concepts of linguistics could be standardized testing and its primary concern for administrators and educators. Due to those standardized assessments and curricula, time allotted for new information and exploration is rare since students "are tested often as they are learning the curriculum" (Peng & Ann, 2010, pp. 158-159). In addition to academic politics, there could be a connection to approved curricula and the views of curriculum and examination designers. In

order to avoid political arguments about diversity, curriculum designers may opt to cover concepts that are easily gradable and generalized to one monolingual student population, much to the dismay of some educators who have a diverse student population (Giovanelli & Clayton, 2016).

In the state of Texas, standardized testing has become the premise for classroom curriculum designs. In other words, if the material is not on the standardized test, curriculum designers and teachers do not implement or teach the material in schools due to time and other issues. Sufficient proficiency on the State of Texas Assessments of Academic Readiness (STAAR, previously TAKS) is required for students to pass to the next grade level. Ongoing debates have shown curriculum designs do not have an immediate goal for students to know all aspects of the subjects thoroughly, but to learn to pass that assessment.

High school level students take the English I portion of the exam, which includes a Reading and Writing section (Texas Education Agency, 2017b). This portion has students answer question regarding sentence and paragraph organization, along with dictionary form definition questions (Texas Education Agency, 2017b). Linguistic knowledge and diagramming may help in those examinations and writing skills, but administrators may say complex syntax and morphology concepts are not areas students need to know to pass state exams. However, those concepts may allow students to learn for their futures, as they will read and write more in post-secondary education, the next step where high schools encourage their students to pursue.

In relation to state standards and examinations, students at these grade levels start to worry about college readiness examinations beyond the STAAR exam. Specifically, the Scholastic Aptitude Test (SAT) examination helps colleges and admission counselors “assess

student preparedness for and to predict student success in postsecondary education" (The College Board, 2015, p.2). In the SAT writing portion, students have to

> …demonstrate college and career readiness proficiency in revising and editing a range of texts in a variety of content areas… for development, organization, and effective language use and for conformity to the conventions of Standard Written English grammar, usage, and punctuation. (The College Board, 2015, p. 59)

This test is given to students who have various language and socioeconomic status backgrounds and requires its test takers to know and use standardized grammar knowledge to get an acceptable score on the writing section. Based on its requirements, linguistics can help with this examination, but some linguistic patterns may not be thoroughly explained in the classroom. In fact, "[n]either rote recall of language rules nor context-free applications of grammar, usage, and mechanics conventions are tested; moreover, low-level recognition and labeling of errors is downplayed in favor of asking students to make authentic, context-based revising and editing decisions" (The College Board, 2015, p. 60).

Misconceptions, Standards, and Perceptions of Linguistics

Linguistics has had its battles and successes in the classroom because of its "focus on structure rather than use" of language (Giovanelli & Clayton, 2016, p. 19). Battistella (2010) claims misconceptions of linguistics and the idea that the field is "too broad", irrelevant, and non-utilitarian are factors leading to linguistics not thoroughly taught in K-12 public education settings in the United States (p. 14). In order for linguistics to have introduction or success in secondary education, stakeholders, such as administrators, teachers, parents, and students, need to: have accurate perceptions of linguistics, recognize the topic meets state standards, and

understand that linguistics can help with careers in “writing, medicine, law, technology, and public policy” (Battistella, 2010, p. 23).

A key concept at issue here, according to Denham and Lobeck (2010), is that linguistics and ELA teachings do not agree to the definition of grammar. There is a disconnection of what grammar is or how it should be taught in the classroom: is grammar used to describe and discuss language, or is grammar used to solely teach a language’s structure (Denham & Lobeck, 2010, p. 3)? To put that question into perspective, Nicholas and Starks (2014) offer their observations on what they have seen in language arts classrooms. The authors claim language teachers rely on rote memory strategies to help students learn standardized grammar patterns, which linguists say does not help much since grammars “leak”, giving the example of suffix *–s* patterns being used with nouns and verbs (Nicholas & Starks, 2014, p. 11). They further say effective language pattern teaching comes from discussing those differences, shifts in language usages, and community usages of patterns (Nicholas & Starks, 2014, p. 12).

The United States school curriculum slowly started focusing on “practical subjects” since the 1800s, but education researchers have helped some curricula in the 19th and 20th centuries see beyond the standards for “measuring school success”, specifically in California (Lord & Klein, 2010, p. 83). Further, Stewart and Kuhlemann Cardenez (2010) claim U.S. school systems teach their students prescriptive aspects of grammar and traditional monolingual language values, deterring students from learning about language awareness (p. 80). However, Giovanelli and Clayton (2016) have found arguments that knowing the forms and functions of language is useful and that language science helps with that knowledge (p. 19). Putting the two thoughts together, though prescriptive grammar teachings are the norm, and by no means are negative teaching

strategies, those teachings would be better helped with the addition of language science investigations to add language awareness into the classroom discussion.

In reviewing information for Texas secondary education, schools must enforce their educators to teach concepts according to the Texas Education Agency (2017a) guidelines. In reference to linguistic education, according to the Texas Education Agency (2017a), students in secondary education language arts classes need to know the following skills in the Reading/Vocabulary Development section for all English I, II, III, IV courses:

> (A) determine the meaning of grade-level technical academic English words in multiple content areas…derived from Latin, Greek, or other linguistic roots and affixes; (B) analyze textual context (within a sentence and in larger sections of text) to distinguish between the denotative and connotative meanings of words; … (D) describe the origins and meanings of foreign words or phrases used frequently in written English…; and (E) use a dictionary, a glossary, or a thesaurus...to determine or confirm the meanings of words and phrases, including their connotations and denotations, and their etymology. (p. 2)

Despite the mention of linguistic concepts students need to know, the Texas Education Agency (2017a) does not directly state what field terminologies students should use in the classroom or how educators should go about teaching those concepts. Due to this, traditional, or prescriptive, grammar concepts could, or tend to, remain in those classrooms, as Stewart and Kuhlemann Cardenez (2010) and Battistella (2010) claim in their studies on misconceptions of secondary education language arts class curriculum.

However, the TEA's 2017 update provides the following additional requirements:

> Text complexity increases with challenging vocabulary, sophisticated sentence structures, nuanced text features, cognitively demanding content, and subtle relationships among ideas (Texas Education Agency, STAAR Performance Level Descriptors, 2013). As skills and knowledge are obtained in each of the seven strands, students will continue to apply earlier standards with greater depth to increasingly complex texts in multiple genres as they become self-directed, critical learners who work collaboratively while continuously using metacognitive skills. (p. 27)

In the following sections, one can see how the additional requirements and linguistic curriculum adopted in other states and countries could play a crucial role in students becoming "self-directed, critical learners who work collaboratively while continuously using metacognitive skills" (Texas Education Agency [TEA], 2017a, p. 27).

Eisenbach (2012) discusses how individual state standards and applications affect the teaching of subjects in school, while Lord and Klein (2012) discuss how linguistic information can help teachers meet and apply state standards to go beyond the misconceptions of linguistics. Eisenbach's (2012) research comes from the idea that state required scripts and workbooks keep teachers in line with Florida state standards rather than what teachers know, such as concepts they learned from college courses or conferences (p. 154). Eisenbach (2012) uses the following terminologies to describe teachers he interviewed: the negotiator, the accommodator, and the rebel (p. 153). The accommodator refers to a teacher who follows the rules of the district and does not use the education given from higher education practices (Eisenbach, 2012, pp. 154-155). The negotiator uses both the district standards and personal knowledge to make the classroom instruction better for the students, and the rebel does not use standard state curriculum

at all (Eisenbach, 2012, p. 155). Those state standards and expectations made an accommodating teacher to feel miserable teaching, a negotiating teacher feel only content with his job, and a rebelling teacher to enjoy teaching what he knows, with his students still achieving adequate grades on exams (Eisenbach, 2012, pp. 154-155).

Lord and Klein (2010) detail how schools in California can focus on and use linguistics and language awareness by assisting teachers to meet standards of language teaching, by implementing more media outside of textbooks to focus on linguistic matters for students, by having linguists help teachers, and by promoting more networking with colleges and linguistic departments (pp. 84-89). They further claim people need knowledge of language functions, which include: examining social standards of dialects, recognizing language acquisition patterns in children, appreciating all human languages, understanding language in scientific inquiry, and making sound decisions on bilingual policies (Lord & Klein, 2010, p. 76).

Additionally, in England, linguistic theory and knowledge showed promise in public education with the increased use of descriptive over prescriptive grammar education (Hudson, 2010, p. 41). The optimistic view of linguistics came from language awareness and knowledge about language theories connecting to the ideas that children should be aware of language as a field of study and that teaching language should be explicit and implicit in regards to metalanguage (Hudson, 2010, p. 42). The teaching of linguistics in public education also helped combat the concerning numbers regarding inadequate foreign language teaching in England, which, only comprised of listening, speaking, reading, and writing in another language before linguistic theory was used or implemented (Hudson, 2010, pp. 46-47).

Australia's Victorian Certificate of Education curriculum, similar to the U.S. senior high school grade level, saw linguistics as a benefit in its schools after Australia stopped teaching

traditional grammar in the 1960s (Mulder, 2010, pp. 62-63). Students in the linguistics courses learn to: know characteristics of Australian English, analyze language variation, connect language to one's identity, and use that information in their writing (Mulder, 2010, p. 68).

In sum, the argument is that those in charge of curriculum designs and mandates are those who need to know the benefits of linguistics. Giovanelli and Clayton (2016) state an idea that is important in respect to this paper and the overall argument of implementing more linguistic methods and skills in the classroom:

> The complexity and nuances embedded in many different kinds of spoken and written texts in secondary English teaching cannot easily be tested in the formats or timelines or conditions currently being imposed. Teachers know this…But politicians have the power; teachers do not. (p. 20)

Outside School Linguistic Education Programs and Their Usefulness

The authors discussing the benefits of linguistics did research on linguistic programs and competitions geared toward high school aged students held outside of the traditional classroom. Clark and Trousdale (2012) discuss the basic concepts and activities given in a weeklong, non-school based course in the United Kingdom called "The Language Detective," which introduces linguistics to students during their last two years of schooling before college or university level education (p. 506). The activities within the course allow students to engage in linguistic investigation by treating linguistics as "detective work" to find facts about languages, gather language data, and analyze that data to find patterns (Clark & Trousdale, 2012, p. 508). The benefits of "The Language Detective" include student knowledge of language diversity, language patterns, and language analysis. Researchers also found the students and tutors engaged with and enjoyed learning about and discussing topics of linguistics (Clark & Trousdale, 2012, p. 515).

Hudson and Sheldon (2013) discuss the Linguistics Olympiad, an out of school competition in the United Kingdom that specializes in allowing students/participants to compete with their knowledge of language and language structures (p. 91). Based on participant comments, participants and educators enjoy the Olympiad because of the activities that are far from the norm of traditional grammar teaching in the classroom (Hudson & Sheldon, 2013, p. 101). Additional benefits of the course include closing the gender gap by engaging more male participants in English studies and "an appreciation of social and cultural diversity" among the students (Hudson & Sheldon, 2013, p. 101-102).

The researchers also describe linguistic analysis tasks and questions the course gives to the students. In the Linguistics Olympiad, students were to find morphological patterns, beyond Modern English affixes, in languages that correlate or loosely translate to English or other languages rather than be taught the linguistic concepts first (Hudson & Sheldon, 2013, p. 92). In "The Language Detective" course, students investigated phonetic and morphological aspects of corpus examples. According to Clark and Trousdale (2012), the program courses asked the following questions at the end of the course:

a) Is the word order of English different from the word order of Japanese? If so, in what ways is it different?
b) How has the marking of negation in French changed over time?
c) Where in the British Isles do speakers pronounce words like town, house and about with a monophthong [u:] rather than a diphthong [X]?
d) How do the Hopi people of Arizona refer to the concept of time?
e) What is a noun? (p. 510)

As seen, the questions make students think more about finding patterns in other languages, discuss language history, find pronunciation patterns, and analyze cultural aspects of language. The last question could seem like a trick question for those students who just analyzed language patterns and learned about language diversity in order to answer the first four questions. However, part of speech knowledge goes beyond labelling a noun as a person, place, thing, or idea, which is the default definition most students are given.

In the United States, Stewart and Kuhlemann Cardenez (2010) discuss the use of a three-week linguistics course taught outside of the traditional school English curriculum for students ages 13 to 16 in Missouri (p. 80). The course tries to inform students of the myths and realities of language outside the prescriptive methods taught in school, to promote the use of linguistic studies in education, and to allow students to study other languages in an effort to fight language and culture discrimination in this population (Stewart & Kuhlemann Cardenez, 2010, pp. 80-81). The authors claim the students can now "make reasoned decisions about their linguistic behavior, observe and evaluate variation in the speech they encounter, and stand up to groundless claims about normative language use" (Stewart & Kuhlemann Cardenez, 2010, p. 93).

In another study, Lidz and Kronrod (2014) use university and high school resources to develop a program where high school AP Psychology students would visit their nearby university and get a college like experience with the main subject being linguistics. Students were able to get an idea of what linguistics is and connect it to the topic of their high school curriculum. Students reflected on the idea that they know some concepts of linguistics because of their school teachings, but their schools' educators never mentioned the term linguistics.

The Usefulness of Linguistics in the Classroom

Knowing that states have curriculum standards and linguistics can help with accomplishing those standards outside of traditional teachings, some researchers and teachers have tried district or campus approved methods in implementing linguistic investigation in the ELA classroom. Honda, O'Neil, and Pippin (2010) change the terms "science", "scientists", and "scientific" to "linguistics", "linguists", and "linguistic", respectively, in reference to schools' usages of science concepts to show linguistics offers the same information background schools want in their science curriculum (p. 177). The researchers test the theory with Pippin's 5th grade English classroom as students use phonology, morphology, and syntax to solve questions students have about the English language (Honda, O'Neil, & Pippin, 2010, pp. 182-187). The fifth grade students enjoyed the linguistic concepts and saw language in a different perspective than when English courses used traditional grammar (Honda et al., 2010, p.187).

Loosen (2014) used her graduate linguistic course knowledge to develop a Wisconsin state accepted elective course for her secondary education students (e258). She introduces phonology and IPA with the 'ghoti' spelling for 'fish' in order for the students to gain interest in the topic (Loosen, 2014, p. e263). Students found words of interest to break apart and find connections to the root languages, thought about how they acquired a second language and at what age, learned about dialectal variation discrimination with the information about African-American Vernacular English, and used school mandated readings to discover language change and language history (Loosen, 2014, p. e264-e266). The challenges of continuing the course included Loosen's own limited linguistic knowledge, the school budget, and the reading level of her students (Loosen, 2014, p. e269).

Domm (2007) also notices the link between linguistics and language education while at the undergraduate level of college. After 25 years of teaching, she had an idea that linguistics in the ELA classroom could help struggling educators and make the English class more "meaningful and effective" (p. 8). Her research focuses on two questions: "Is linguistic inquiry a missing link between students, teachers, language, and learning?" and "Can linguistic inquiry enable students to become more aware of their own language expertise, more respectful of language diversity, more engaged as second language learners, more effective as writers and readers, and more confident in using academic language?" (Domm, 2007, p. 1). She found language needs both art and science, and the two disciplines are combined to close the gap between knowledge of students and ELA teachers by using linguistic inquiry in the classroom (Domm, 2007, p. 126).

In South Carolina, Fields-Carey and Sweat (2010) use linguistic concepts, such as language and culture investigation and analysis, with their 9th grade students, some students being Hispanic, Spanish speaking, or speakers of African-American Vernacular English. The use of linguistic concepts opened a discussion for language variation in an area where using other pronunciations or phrases labels one as "weird" or "strange" (Fields-Carey & Sweat, 2010, p. 272). The discussion led to students realizing the biases they held when thinking of dialects or the intelligence of a speaker who speaks broken English. Eventually, the students figured language variety and the culture related to those varieties are "something to be cherished" (Fields-Carey & Sweat, 2010, p. 273).

Though Honda, O'Neil, and Pippin (2010) and Loosen (2014) had successes in their approach to educating public school children and teens at school, most classroom experiences do not go as planned, as O'Neil (2010) details in his research teaching linguistics at the university

and high school levels. O'Neil's (2010) purpose is to find a way to implement linguistics in the form of generative grammar and scientific inquiry in English curricula for future ESL educators. When that project did not have successful outcomes, O'Neil (2010) engaged in a similar approach as Honda et al. (2010) by incorporating linguistic theory and phonological analysis in connection to science and scientific inquiry. Finally, he found a primary education classroom where his goal of teaching linguistics in general education became a reality. This 5th grade classroom was the same classroom as Honda et al. (2010), Pippin's class. After observing different classrooms and creating a hypothesis of why linguistics does not do well in secondary education, O'Neil (2010) believes the field does not excel in public education since it is not a utilitarian field and most teachers do not seek or ask for help in the theory (p. 34), despite all the positive outcomes of linguistics.

The National Curriculum of English in Europe already has linguistic type subjects students need in the classroom, such as Knowledge about Language (Cushing & Hellmuth, 2016). Cushing and Hellmuth's (2016) study attempts to open the discussion of having more phonetics and phonology related materials and activities in the Key Stage 3 classrooms. They want to do this since attempts have already been done in Key Stage 4-5 classrooms, which is equivalent to the U.S.'s 6th to 9th grade (Cushing & Hellmuth, 2016; ACS International Limited, 2018), where students need to know those concepts for assessments (p. 114). They believe the concepts will benefit students since examinations require knowledge of "digraphs, phonemes, sound to spelling relationships, homophones, homonyms, accents, vowels and consonants" (Cushing & Hellmuth, 2016, p. 115); students will be familiar with those concepts before entering Stage 4-5 classrooms. Students in one classroom also have a variety of analyzable

dialects using the phonetic alphabet to gather information on the standard versus natural speech (Cushing & Hellmuth, 2016).

In order to promote and integrate knowledge of language in its schools, Scottish linguists and educators created Committee for Language Awareness in Scottish Schools, known as CLASS (Trousdale, 2010, p. 49). University linguists held a conference in public schools to discuss their research and engage students in activities; one such activity involved analyzing text messages (Trousdale, 2010, p. 58). All involved engaged in debates about the concepts of language utilized in creating a text message. CLASS also attempted to develop cheap, useful, and accessible resources to help teachers use linguistic terminologies in the classroom, such as websites and activity designs (Trousdale, 2010).

Teachers: Their Factors and Desire to Teach Linguistics

Researchers also took into account educators' knowledge of linguistics, their comfort in teaching linguistics, and their methods of applying linguistics in their classrooms. In general, the consensus is that teachers should "be linguistically better informed and better able to understand the complexities of language use" (Giovanelli & Clayton, 2016, p. 24). Denham and Lobeck (2010) further state though teaching programs do touch on linguistic material, such as requiring future educators to take and pass a linguistics class, linguistic material itself does not appear in the K-12 curriculum because the information is not taught as a hands-on application of education in the classroom (p. 1). In other words, education classes do not show future teachers how to integrate that information into their lessons or part of the practices of how to teach grammar. For the majority of the studies, the educational environment includes monolingual and bilingual classrooms for children, adolescents, and adults in varying countries.

Barry (2002) believes linguistics usage helps in connecting students' linguistic style choices to educators making sound judgments in a student's linguistic repertoire. This allows teachers to understand patterns of language struggles and acquisition in ESL students with a type of ongoing language analysis based on linguistic concepts (pp. 1-3). Similarly, Cunningham (2015) encourages language teachers to learn linguistics to have more effective student learning and comprehension of their students' and others' languages (p. 77). Language teachers' knowledge of phonology, morphology, and syntax can assist them to better pinpoint certain teaching and practice strategies for students of differing language backgrounds instead of teaching a curriculum that is not inclusive of all students (Cunningham, 2015, pp. 88-89). This work connects to Barry's (2002) idea of understanding and teaching descriptive versus prescriptive grammar and good versus bad grammar in classrooms (p. 6).

Further, Holland (2013) focuses on the need for ESL teachers to learn linguistics to give their students answers to why languages differ rather than having their students solely know the rules to languages (p. 139). After teaching ESL students X-Bar Theory with the do-insertion described in traditional grammar classes, ESL students found gaps in the textbook given definition (Holland, 2013, p. 139). These gaps showed traditional textbook definitions taught outside of linguistic courses have flaws that could hinder ESL student learning of certain complex English language patterns. Holland (2013) found students collaborated more in the X-Bar Theory classroom and felt more comfortable asking questions, which made the language "more approachable and less intimidating to learn" (p. 143-144).

The approach also led Holland (2013) to claim ESL teachers should make it point to learn linguistic analysis to understand and describe languages for effective ESL education (p. 47). In fact, after learning linguistic theory, of 61 graduate students ranging from experienced to new

teachers who taught Teaching of English to Speakers of Other Languages (TESOL) classrooms, 86% of the participants said linguistic information helps them in the classroom (LaFond & Dogancay-Aktuna, 2009, p. 355). However, experienced teachers knew which specific language pattern problems linguistic analysis could solve, while newer teachers focused on the concepts as a whole rather than the problems the concepts could solve for their students (LaFond & Dogancay-Aktuna, 2009, p. 356).

From a graduate student's newfound linguistic knowledge, Loosen (2014) creates an elective course where she teaches her high school students what she has learned in her graduate level syntax course. She asks for this course and its curriculum after realizing students can engage in language study, and she could better explain concepts in her classroom (pp. e258-e259). The students of a diverse population expressed positive feedback and mentioned much about how linguistics helped in identifying language and cultural diversity (Loosen, 2014, pp. e270-e271).

Though the research shows the benefits educators and students gain from linguistic theory, secondary education or early university level courses rarely implement linguistics. Eisenbach (2012) claims sometimes teachers' ethics and topic knowledge goes in a different direction from what the state or district curriculum mandates regarding classroom instruction, or "scripts"; this pattern led to his discussion and analysis on the accommodator, the negotiator, and the rebel type of teachers (p. 153). Hudson (2010) says the problem of implementing linguistics in schools is that teachers have no knowledge of linguistics, and they find workbooks helpful with teaching concepts they themselves are not too familiar (p. 43). Further, Lord and Klein (2010) claim teachers' textbook information dependency takes over in a classroom curriculum design and instruction (p. 88). For example, teachers are more willing to trust the definitions

given in a textbook even if some definitions are questionable or do not follow their own rules after some time.

In getting away from relying on textbook information, in her personal reflection as an English teacher, Curzan (2009) states she teaches reasoning behind prescriptive grammar rules to her high school students. Her teaching strategy is to allow students to question language and not solely see grammar as an unchallengeable subject because the rules are in a textbook. The author also makes an interesting statement about teachers and their roles as writing guides: "We abandon our job as teachers if we do not ask students to question how they are expected to write…" (p.871), and teachers have a responsibility to know about the English language, its varieties, and its deviations from the textbook standards (Curzan, 2009, p. 878).

In another article, Curzan (2013) argues linguistics is important to English teaching, even if people do not know what linguistics is when they enter a linguistic education classroom (p. e1). The author further describes how teachers should prepare their knowledge with three types of resistance seen in a classroom: student resistance, public resistance, and instructor resistance (Curzan, 2013, p. e2). Altogether, those resistances deter the teaching and use of linguistic knowledge in the classroom. Once those resistances are positively met with engaged student observations about dialects, diversity, and questioning of the rules, students are more inclined to engage in more, reflective thinking and open to culture learning and education, which is beneficial for life skills (Curzan, 2013).

Giovanelli (2016) states teachers would benefit from having linguistic knowledge to help students question language issues in Standard English such as "dialectical variation, compressions, informal registers, speech and writing, and how varieties of language are clearly appropriate in some contexts and not in others" (p. 40). Giovanelli (2016), in agreement with the

authors mentioned above, adds another reason why teachers would not feel comfortable teaching linguistics: language analysis is “too difficult” for teachers and students at the secondary school level (p. 44).

Linguistic Approaches, Methods, and Designs from a Linguistics as a Science Perspective

As discussed previously, researchers and educators have successfully used linguistic investigation inside and outside an ELA classroom. This section shows how linguistic investigation was implemented in the classrooms or in programs and taught to students of varying ages.

Halliday’s Systemic Functional Grammar

In much of the articles and research devoted to implementing linguistic theory in public secondary education and ESL classrooms, most authors referred to Halliday’s systemic functional linguistic approach and its component of systemic functional grammar (AlHamdany, 2012; Christie, 2012a; de Oliveira, 2008; Liu & Ping, 2009; Schulze, 2015). Within the systemic functional linguistic theory are metafunctions (ideational, interpersonal, and textual), register (field of discourse, tenor of discourse, and mode of discourse), genre, and functional grammar (transitivity) (AlHamdany, 2012; Christie, 2012a; Schulze, 2015).

Halliday’s systemic functional grammar (SFG) theory can be broken down based on the words in the theory: *systemic*, *functional*, and *grammar*. *Systemic*, from the word *system*, is a set of options that can be chosen; in this case, the speaker is the one choosing how to use his/her language based on experiences (Halliday, 1969/1976, p. 3; Halliday, 1985, p. xxvii). *Functional* involves language use and takes into consideration the evolution of language (Halliday, 1985, p. xiii).

The categories under functional are currently known as metafunctions, previously macro-functions. *Interpersonal*, *ideational*, and *textual* are metafunctions Halliday, and his followers, cites frequently. The ideational metafunction is our interpretation or understanding of our experiences, connecting to transitivity and semantic roles, such as agent and locative (Halliday, 1970/1976, p. 20; Halliday, 1985, p. xiii). The interpersonal metafunction references mood and modality, or the role of the speaker and his/her point of view and opinions of the situation in the utterance (Halliday, 1970/1976, pp. 21-23). Finally, the textual metafunction is that language should be relevant to the situation (Halliday, 1970/1976, pp. 23-24; Halliday, 1985, p. xiii).

Grammar refers the levels of language, syntax, morphology, phonology, and semantics; syntax included since the theory holds that grammar includes meaning not just language forms and structures (Halliday, 1985, p. xiv). In summation, Halliday claims the grammar many educators and linguists refer to (meaning syntax and morphology) is "an integration of the various functional components into a unified structural form" (Halliday, 1970/1976, p. 24). In his writings, he explains the following clause *The sun was shining on the sea* in reference to the three metafunctions and how they help analyze the sentence beyond looking at the syntax level (Halliday, 1970/1976, p. 24).

Registers, divided into *field of discourse*, *mode of discourse*, and *tenor of discourse*, are also important elements in Systemic Functional Linguistic theory. *Field of discourse* refers to the social connection or event that is occurring at the time of utterance, usually analyzed with the ideational metafunction, while *tenor of discourse* refers to the participants' relationships, analyzed with the interpersonal metafunction (Christie, 2012a, p. 8-9). *Mode of discourse* is when a sentence was written or spoken and analyzed with the textual metafunction (Christie, 2012a, p. 9).

AlHamdany (2012) observed teaching methods in Australian classrooms taught by two ESL teachers whom were later interviewed with questions regarding SFG use in the classroom and its effect on classroom communication (p. 186). The researcher also discussed the three groups of grammar (traditional, formal, and functional) with the main focus and definition descriptions of functional grammar and its three registers: field, mode, and tenor (AlHamdany, 2012, pp.179-181). The results showed teachers felt using the SFG helped students learn effectively because the instruction was more interactive, the activities focused on meaningful communication, and the teachers learned with the students on the concepts that are beneficial for both parties: what groups of grammar students need and what groups of grammar teachers need to avoid (AlHamdany, 2012, pp.191-192). Christie (2012b) also adds questions teachers can ask students in connection to the systematic functional linguistics theory and how teachers can better explain those metafunctions, textual contexts, registers, and genres in the classroom and find patterns of language use.

Schulze (2015) expresses concern over teachers who do not have adequate knowledge of language when teaching their ESL students and claims systemic functional linguistics can help solve this problem (pp. 109-110). He says systemic functional linguistics could prove "a tool for developing teachers' knowledge of content-area language" by removing traditional grammar rules (Schulze, 2015, p. 109). The author uses the method in his eighth grade ESL writing classroom and saw students benefitting from the method. In classroom design recommendations, Schulze (2015) says the systemic functional linguistic approach works with the following in mind: choose linguistically complex texts, increase scaffolding practices, use metalanguage strategies in the classroom, and give students time to discuss the strategies and approach with the instructor (pp. 122-123).

Further, de Oliveira (2008) observes and interviews an ESL 4th grade teacher learning and using the systemic functional linguistic theory and scaffolding in her U.S. science classroom (p. 109). The teacher would follow the rules of the theory during and after classroom instruction to better understand and learn the theory (de Oliveira, 2008, p. 110). Though not done in an English classroom, de Oliveira (2008) made a generalization that teachers need help from teacher educators and should be able to ask for expert knowledge in areas that the teacher is not familiar or comfortable teaching (p. 129).

Though the systemic functional linguistic theory focuses more on the use of language, Holland (2013) goes into detail in teaching the auxiliary *do* in questions using X-Bar Theory in his research on the need for ESL teachers to learn linguistics; his reasoning is to give students answers to why languages have different structures (pp. 139-141). Holland (2013) found students collaborated more in the classroom and felt more comfortable asking questions rather than remaining silent speaking in class (pp. 143-144). Learning the language in this way made the language "more approachable and less intimidating to learn" (Holland, 2013, pp.143-144).

Other Linguistic Designs and Methods

Now focusing on linguistic teaching concepts outside the systemic functional linguistic theory, Clark and Trousdale (2012) explain methods of how out of school programs describe linguistics to students. "The Language Detective" course allows students to actively learn about other accents and dialects due to its diverse student population, engages students by giving them phonology problems and IPA assignments to compare languages, and sends linguists to talk to students of the course (Clark & Trousdale, 2012, p. 512-513). In a similar fashion, Loosen (2014) uses students' previous knowledge of language, video clips, guest speakers, credible

linguistic websites, and linguistic activities to engage students in the areas of phonology, morphology, language acquisition, sociolinguistics, and the history of English (pp. e262-e263).

In connection to linguistic components in the classroom, Harris, Schumaker, and Deshler, (2011) focus on morphemic analysis strategies and reading comprehension by comparing the usage of Word Mapping and Vocabulary LINCing conditions in adolescents across three 9th grade English classrooms (p. 17). They discuss the difference in lexicon learning in reference to non-generative approaches, which are aides to word definitions, and generative approaches, which give meaning and other word relations to the target word (Harris, Schumaker, & Deshler, 2011, p. 18). LINCing conditions relate to generative approaches, which involve providing images, a definition, a story, and "reminding word", while Word Mapping relates to non-generative approaches and provides affix information, meanings of the affixes and root, and the definition (Harris et al., 2011, pp. 24-25). Results showed students learned and predicted word meanings better with word mapping, a morpheme analysis strategy (Harris et al., 2011, p. 31).

Additionally, Templeton (2012) claims morphology knowledge, in terms of generative knowledge, helps student learn meanings of words, allowing them to: internalize words better, use the words in writing and in reading passages to connect to each other to meanings, and encourage students to learn more about how words are used and how they can study those usages (p. 101). The author also discusses etymology practices, which would allow students to connect words to language of origin and relate to cognates of other languages, leading to more world language knowledge outside their own language (Templeton, 2012, p. 104). What other researchers have not mentioned are morphemes students struggle with. In connection to morphemic awareness and student challenges, Varatharajoo, Asmawi, Abdallah, and Abedalaziz,

(2015) show participants could not engage with the complex derivational words due to lack of knowledge of the backgrounds of the words (p. 45).

Alternatively, Liu and Ping (2009) focus on introducing and implementing corpus and contextualized lexicogrammar for language learning teacher education programs using three universities, one in China and two in the U.S. involving 206 participants (p. 63). The authors also describe the three types of grammar instruction approaches and ultimately create a combination called the corpus-based lexicogrammatical approach (Liu & Ping, 2009, p. 63). The research found the participants had the following benefits: "enhanced language awareness and better command of lexicogrammatical rules/patterns, increased critical understanding of grammar," and found learning more effective (Liu & Ping, 2009, p. 67).

Dur (2013) discusses how a modern method of teaching helps "widen the students' horizon and make them realize that grammar is not only theory, but also practice and fun" (p. 89). Traditional methods are the teachings that do not make learning English interesting or attractive to learn more about the topic (Dur, 2013). In a modern teaching method classroom, the curriculum forces students to do more and engage with English language learning. The researchers used traditional and modern methods in two separate classrooms for the duration of one school year. The study found the modern methods when teaching verb tenses, nouns, articles, pronouns, adjectives, and adverbs made the class easier when teaching grammar; the material engaged the students, and they were open to communication (Dur, 2013, p. 89).

Clayton (2016) discusses the changes in curriculum objectives in a European curriculum for AQA English Language A-level students where language change is a primary focus. When referring to the study of language change in the classroom, Clayton (2016) discusses what others have done make the topic of language more interesting for students. He integrated social media

and personal conversations and allowed students to track the languages changes. Doing activities like that in a classroom helped students see the changes of word usages and analyze the internet shaping new language changes. This approach made the students more connected to what they are studying, to their sociolects, to their idiolects, and to their identities.

D'warte (2014) conducted a study with 105 multilingual and monolingual Australian students in Years 5-8 (p. 21), who would be U.S. equivalent to 4th to 7th grade students (ACS International School Limited, 2018). The author created a curriculum design and activities highlighting the benefits of allowing students and teachers to investigate dialects and language uses in the classroom. After open discussions of how students used their language(s) using self-drawn pictures, creating their own literary texts, and slang role-playing, the results found the activities were productive in students comparing and contrasting perspectives about everyday language practices, and students were engaged and enthusiastic in learning about language differences (D'Warte, 2014, p. 28).

Kumar and Yunus's (2014) research claims though language is ready to be learned by its speakers, based on Chomsky's theory of innateness, activities in school systems do not allow this learning to continue to take place as multilingual learners attend language classes. They use the NCERT's 2006 statement in reasoning that "schools do not 'relate to languages of their (children's) homes and neighbourhood'" (as cited in Kumar & Yunus, 2014, p. 209). Schools tend to focus on languages they value, not what language their students speak, making students detach from learning since their teachers and schools do not openly recognize or discuss the language difference, or even culture (Kumar & Yunus, 2014).

Taylor-Leech, Starks, and Willoughby (2015) take a student-friendly, personal approach to using linguistic concepts in the classroom. In their study of 642 Australian high school

students, the researchers asked students to evaluate their classmates' and their own nicknames. The study then allowed students to research their nicknames in connection to language change, variation, and language for interaction (Taylor-Leech, Starks, & Willoughby, 2015). Students were subtly introduced to creative spelling and a word formation processes while evaluating their nicknames and finding meaningful sociolinguistic connections to their names' usages in different environments.

In a TEFL classroom, Thekes (2011) states grammar teaching needs to be entertaining and include visuals (p. 215). The author details games TEFL students can play when learning grammar concepts because solely giving grammar information to students may not effectively help students learn; so, fill-in-the-blank exercises may not be as fruitful as intuitionally planned (Thekes, 2011, p. 215). Though the age range of students the twelve games are targeting is not mentioned, the games do involve many hands-on activities, along with social interaction.

In an attempt to integrate linguistic education into the classroom, Evans (2011) offers ways to introduce students to linguistic concepts when teaching grammar, such as syntax, morphology, semantics, and sociolinguists. The lessons and activities are quick enough to not take away from the overall curriculum (for those educators on a tight schedule), and the author claims even teachers who are not too familiar with those linguistic concepts can still adequately teach those lessons (Evans, 2011, p. 299). Students who are familiar with these concepts can use them to analyze language use and refer to the information when writing.

Summary of Review

The purpose of the literature review was to find connections and themes to help answer the main research questions of this paper:

Do teachers perceive theoretical linguistics as useful in the classroom?

Do teachers perceive theoretical linguistics as a science?

Do teachers desire to implement theoretical linguistics in the classroom?

Do environmental factors influence theoretical linguistic education in public schools?

In summation of the literature for perception of linguistics as a science, researchers and teachers have used scientific method and analytical thinking strategies in their language teachings through methodologies and theories that begin with hypotheses questions. They have used scientific method analysis in their classrooms, and those strategies in ELA classrooms in other countries benefit students' learning and language observation skills.

After taking linguistic courses and having experience teaching, some teachers and program curriculum designers understand the usefulness of linguistic analysis in the classroom and successfully created trial classes for their students. They implemented linguistics in their students' education and those triumphs show linguistic analysis in the U.S. ELA classroom is possible given enough resources and reinforcement.

According to various researchers, there are environmental factors affecting the implementation of theoretical linguistics analysis and in the U.S. classroom. Some reasons include: a budget to teach linguistic concepts to educators, lack of time to discuss linguistic concepts in the classroom, "standard" monolingual English language education for writing, requirements for all teachers to follow state curricula, the need for state standard examination recognition, and the misconception of what grammar is. School curricula using linguistic analysis in their classes and designs positively changed as language education became more important for its students and the students' futures with growing language diversity

environments. Students also became open-minded in learning and understanding different languages and cultures.

CHAPTER III

METHODOLOGY

This study is to investigate teachers' perceptions on theoretical linguistics focusing on four factors: Usefulness of theoretical linguistics in the classroom, Desire to implement theoretical linguistics in the classroom, Environmental factors that influence theoretical linguistics education in public schools, and Perception of theoretical linguistics as a science. Survey questions were created to gather general ideas and practices in order to answer the research questions without going into school district policies or Texas education school system politics.

Not all RGV public school districts participated in the project. Some school districts were not directly contacted due to their online review board requirements, such as specific date ranges allotted for research projects, or only a certain amount of teachers were allowed to engage in the research within a certain time. As per some district policies, some school districts did not allow outside school district online links to be shared with their employees. Some school districts also did not wish to participate or did not respond to the invitation within the approved timeframe of the IRB and the other school districts' approval dates. Due to the factors mentioned, only ten percent of the RGV school districts participated. Of those districts, districts had an average of five high schools with no more than three 11^{th} and 12^{th} grade ELA educators per campus, according to the principals of those campuses.

Participants

In order to gather RGV educator data on the topic of linguistics in secondary education, an online survey was sent to 11th and 12th grade English Language Arts teachers in the Rio Grande Valley. This group was chosen due to the idea that students at those grade levels could benefit from learning about linguistics analysis. The reasoning is students already have a background in English language and grammar since they have been taking English courses for about twelve years. In 11th and 12th grade, students start deciding their college majors and applying to colleges, with the help of teachers and counselors. Putting those two events together implementing linguistic terminology and informing students about linguistics would help bring linguistic information to students interested in language investigation. In total, 13 educators responded to the survey. More information the participant totals is mentioned later in this chapter as well as in the discussion of limitations.

An online survey link allowed for participant names, district affiliations, and overall responses to remain anonymous throughout the data collection months. The survey was voluntary with no repercussions for non-participation from the researcher, the university, or the participant's school district. As per school district requests to maintain participant anonymity, no school district names are mentioned in this paper.

Instruments

A 5-15 minute online survey was developed to answer the research questions:

Do teachers perceive theoretical linguistics as useful in the classroom?

Do teachers perceive theoretical linguistics as a science?

Do teachers desire to implement theoretical linguistics in the classroom?

Do environmental factors influence theoretical linguistic education in public schools?

The survey consists of 21 questions regarding demographics, education history, and Likert Scale type questions. The survey was created and sent using Qualtrics, an online survey machine that allows finalized survey links to be copied, pasted, and sent to intended participants. Participants could use the link on any device that allowed the link to open, such as school desktops, laptops, tablets, and cellular phones. Qualtrics's survey settings allowed participant data to remain anonymous and completed survey responses to show as random, meaning no person involved in the research could determine who sent in a response. A version of the online survey questions and possible responses is found in Appendix A.

The survey is organized into two sections. The first section consists of nine demographic questions regarding educational experience, teaching experience, and theoretical linguistics implementation in the classroom. Those questions have multiple choice or write-in options. The second section contains 12 Likert scale statements on a scale from Strongly Disagree, Disagree, Neutral, Agree, to Strongly Agree. The 12 statements are grouped into four categories:

1. Usefulness of theoretical linguistics in the classroom
2. Perception of theoretical linguistics as a science
3. Desire to implement theoretical linguistics in the classroom
4. Environmental factors that influence theoretical linguistics education in public schools

As they were responding to the statements, the participants did not see the categories. As seen in Appendix A, participants are given definitions and examples of theoretical linguistic concepts before answering the Likert Scale theoretical linguistic questions. The information was organized

in that way for all the participants to have the same idea of theoretical linguistics and its components when answering the statements.

Data Collection Procedure

Before collecting data, the UTRGV Institutional Review Board approved of the project, and school districts in the Rio Grande Valley approved of the project via project review board procedures and superintendent approval. The school administration, mainly principals, secretaries, and IT personnel, sent the survey summary and link to those teachers who qualified for the survey via departmental e-mails, announcements, and/or general listservs. Some administration policies allowed only for the survey information and online survey link to be given during a departmental meeting, not through personal or school e-mail listserv. Based on the district policies, the survey announcement differed. A general summary of the survey was given to all school districts and personnel involved and was encouraged to be shared to the participants before they opened the link. The information was also given after opening the link to make the given information fair among all participants.

The survey needed to be sent out twice because of some IRB approval revisions and approval timeframe, extended timeframe approvals needed for some school districts, and public schools' primary focus on state examinations during the Spring semester. The first attempt yielded few responses. To gather more data, an additional population pool was added to the survey distribution plan. The survey demographic questions and Likert scale statements remained the same. The IRB did not approve for the survey to be sent to the additional population pool in time for more public school educators to take the survey. Additionally, some school districts had restrictions on when research can be done and state testing was about to take place.

To gather more responses, in accordance with IRB regulation and its initial approval of the first survey distribution, the same survey was sent out again and was only given to the initial population pool: the 11th and 12th grade ELA educators of the RGV. With the re-approval of the school districts, the survey was sent out to the same educators again at a later month to receive more data from those who did not respond to the survey the previous time. A total of 13 educators participated in the survey.

Since the number of respondents represents a sample size, the results will show trends and patterns based on the mean and standard deviation of responses. The patterns and trends will come from data categorized into the four categories and demographic information from the respondents, mainly from their previous linguistic education. Responses to individual questions will also be included to show majority responses.

CHAPTER IV

RESULTS

This section will reveal information teachers provided from the online survey. The information will provide insight into what teachers think about linguistics in the classroom to help answer the research questions.

Demographics

Nine females and four males participated in the survey. Six participants have a bachelor's degree in English or in other Liberal Arts fields. Seven participants have a master's degree varying from Bilingual Education, Business, English, Communications, and Counseling. The participants have also been teaching at their current grade levels for the same amount of time they have been teaching, from 1-20 years. The participants teach varying 11th and 12th grade English courses, from Advanced Placement, Dual Enrollment, Pre-Advanced Placement, Regular, and English III. Nine out of the thirteen respondents took a theoretical linguistics course at the university level. Four out those nine respondents say they use theoretical linguistics teachings in their classroom a little, while five say they use the teachings a moderate amount.

Likert Scale Section

From the literature and survey data, the paper aims to answer the following questions:

Do teachers perceive theoretical linguistics as a science?

Do teachers perceive theoretical linguistics as useful in the classroom?

Do teachers desire to implement theoretical linguistics in the classroom?

Do environmental factors influence theoretical linguistic education in public schools?

The survey has 12 Likert scale statements that participants could indicate their preference from Strongly Disagree to Strongly Agree. The options were converted to a 5-point scale: one being Strongly Disagree, two being Disagree, three being Neutral, four being Agree, and five being Strongly Agree. After retrieving and calculating the data averages, the Neutral option needed to be further categorized into four descriptions. 3.00 -3.24 is Neutral, 3.25-3.50 is mostly neutral, 3.51-3.75 being neutral toward agreement, and 3.76-3.99 being mostly agree.

The statements that involve perception of linguistics as a science include:

S1: Schools should encourage theoretical linguistics as they do STEM studies.

S2: Theoretical linguistic investigation is a scientific method that can be used in an English classroom.

For both these statements, eleven participants agreed, and two responded as Neutral. The average for the entire category is also 3.84, or mostly agree.

Statements involving the usefulness of linguistics in the classroom include:

S3: Using theoretical linguistic knowledge is useful in teaching English grammar.

S4: Theoretical linguistics helps English monolingual students to learn English language patterns in the classroom.

S5: Theoretical linguistics helps ESL students learn English language patterns in the classroom.

S6: Theoretical linguistics is not useful in secondary education settings.

Three participants Strongly Agree with S3, while eight Agree and two are Neutral about the statement. The average response for S3 was 4.07, Agreement. Eleven participants Agree and two responded as Neutral for S4 and S5. The average response for S4 and S5 was 3.84, or mostly agree. For S6, one participant strongly disagreed, seven Disagreed, and five were Neutral. Since S6 is a negative statement, the interpretation would be that one participant strongly agreed and seven participants agreed to linguistics being useful in the classroom. The average response for S6 was 3.61, neutral toward agreement. The average response for the usefulness of theoretical linguistics in the classroom category was 3.84, or mostly agree.

Statements in the desire to teach linguistics category are:

S7: I would like to use theoretical linguistic knowledge in my teaching.

S8: I would like to implement syntactic analysis in my teaching.

S9: I do not feel comfortable teaching theoretical linguistics.

Nine participants agreed with S7, while four were neutral. The average response for this statement was 3.69, neutral toward agreement. Ten participants responded in agreement with S8, while three were neutral. The average response was 3.76, or mostly agree. For S9, one participant strongly disagreed with the statement, while eight disagreed, three responded with neutral, and one agreed. S9 is a negative statement, so the interpretation would be that one participant strongly agreed that he/she does feel comfortable teaching linguistics, while eight agree on feeling comfortable teaching linguistics, and one participant does not feel comfortable teaching linguistics. The average response for S9 was 3.69, neutral toward agreement. The average for the category of the desire to teach linguistics was 3.71, neutral toward agreement.

Statements for the environmental factors, such as state examination requirements, time, and resources, and their influence on theoretical linguistic include:

S10: State examination curriculum does not allow teachers to implement theoretical linguistic teaching techniques.

S11: Semesters are tightly scheduled that we cannot implement theoretical linguistics in our teaching.

S12: We do not have enough resources to implement theoretical linguistics in English Language Arts classes.

Seven participants responded to S10 with Neutral, while six responded in agreement with the statement. The average for S10 was 3.46, or mostly neutral. S11 has two responses of Strongly Agree, four in agreement, four with Neutral, and three in disagreement. The average response for S11 was 3.38, or mostly neutral. Participants responded to S12 with two Strongly Agree, eight agree, two as Neutral, and one in disagreement. The average for S12 was 3.84, or mostly agree. The average for the environmental factors category was 3.56, neutral toward agreement. Table 1 shows the averages for the 12 statements along with their standard deviations.

Linguistic Knowledge and the Four Categories

Participants were also asked if they had taken any linguistic courses at the post-secondary education level. Of the 13 respondents, nine educators responded Yes to have taken a linguistics course, while four responded having not taken a linguistics course. The two variables were categorized into No Linguistic Knowledge if the participant responded with No and With Linguistic Knowledge if responded with Yes. The Yes and No responses to the question were analyzed with the 12 Likert scale statement preferences. The Likert scale statements were grouped into the four categories:

1. Usefulness of theoretical linguistics in the classroom
2. Perception of theoretical linguistics as a science

3. Desire to implement theoretical linguistics in the classroom
4. Environmental factors that influence theoretical linguistics education in public schools

Table 2 shows the four factors in relation to the No Linguistic Knowledge and With Linguistic Knowledge variables.

On average, all participants mostly agree in the perception of linguistics as a science category with those who have not taken linguistic courses averaging on neutral toward agreement of the statements. Those educators who have not taken a linguistics course are neutral toward agreement on the usefulness of linguistics in the classroom, while those with linguistic knowledge are mostly in agreement of the usefulness. Both groups average on mostly agreeing on the usefulness of linguistics in the classroom.

In regards to desire to teach linguistics, the average of both groups of participants are neutral toward agreement on wanting to teach linguistics. Those who have not taken a linguistic course were mostly neutral in wanting to teach linguistics, while those with linguistic knowledge mostly agree in wanting to teach linguistics. For environmental factors, the average response was neutral toward agreement, with those who have not taken a linguistics course responding with mostly neutral. Those who have linguistic knowledge were neutral toward agreement.

Level of Education and the Four Categories

In addition to whether or not the participants had taken linguistics courses, the participants' level of education, master's or bachelor's degree, was taken into consideration for their perceptions of the four categories. Results of these two variables can be seen in Table 3 and Table 4.

Master's Degree and the Four Categories

Seven respondents have a master's degree. Five of the seven have taken a linguistics course at the post-secondary level. On average, those five respondents were in agreement in perceiving linguistics as a science and linguistics being useful in the classroom. They were mostly in agreement in the category of desire to teach linguistics and mostly neutral in environmental factors affecting the teaching of theoretical linguistics in the classroom.

The average perceptions of all four categories of master degree holders who have not taken a linguistics course were mostly neutral, with desire to teach linguistics being neutral. Generally, Master's degree educators were mostly neutral in seeing environmental factors affecting linguistics in school. The results can be seen in Table 3.

Bachelor's Degree and the Four Categories

Six respondents have a bachelor's degree. On average, these participants mostly agreed linguistics is useful in the classroom. They mostly agreed on wanting to teach linguistics. Those who have not taken a linguistics course responded with an average of agreement in the categories of usefulness of linguistics, desire to teach linguistics, and perception of linguistics as a science. They were also neutral toward agreement in thinking environmental factors affected the use of linguistics in the classroom. The four respondents who have taken a linguistics course were, on average, neutral toward agreement and mostly agreement in all four categories. The results can be seen in Table 4.

Summary of Results

On average, the participants mostly agree on the perception of linguistics being useful in the classroom. The average response for the category of desire to implement linguistics in the classroom was neutral toward agreement. Teachers who have taken linguistic courses mostly

agreed that linguistic investigation is useful for students and in wanting to use that type of skill in their classrooms more than those who have not taken linguistic courses, which is at a neutral toward agreement rating. As seen in Table 2, those who have not taken a theoretical linguistics course, on average, rate the four factors a bit lower than those who have taken a theoretical linguistics course. For environmental factors affecting linguistic education in the classroom, on average, educators were neutral toward agreement.

Master's degree holders who have taken linguistic courses and bachelor's degree holders who have not taken linguistic courses have agreed on linguistics as a science, as seen in Table 3 and Table 4. Master's degree holders who have not taken a linguistics are mostly neutral in their perception of linguistics as a science, while bachelor's degree holders with linguistic knowledge are neutral toward agreement in their perception of linguistics as a science. On average, Bachelor's degree holders mostly agree that environmental factors affect linguistic teachings in the classroom.

The statement about time, S11, in the Environmental Factors category showed more varying responses, as the standard deviation of groups was 1.00 for those who have not taken a linguistics course, 1.11 for those who have taken a linguistics course, and 1.04 as an average of all responses. However, on average, the participants feel neutral toward agreement about the environmental factors affecting the implementation of linguistics in the classroom, and the standard deviation was higher in that category for all types of educators, at .85.

In regards to their education level, those who hold a bachelor's degree and have not taken a linguistics course rated the categories of usefulness of linguistics in the classroom and perception of linguistics as a science the same as those who have a master's degree and have taken a linguistics course. However, the bachelor's degree holders without linguistic knowledge

rated the desire to teach linguistics in the classroom and environmental factors slightly higher than those who have a master's degree and have taken a linguistics course. Those who have a master's degree and have not taken a linguistics course rated all the four categories lower than the other group of respondents, even those with a bachelor's who have not taken a linguistics course.

Table 1
Average of Likert Scale Statements

		S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12
No theoretical linguistic knowledge	Mean (n=4)	3.75	3.75	3.50	3.75	3.75	3.50	3.50	3.50	3.50	3.00	3.50	4.00
	Standard Deviation (n=4)	.50	.50	.57	.50	.50	.57	.57	.57	.57	.00	1.00	.81
With theoretical linguistic knowledge	Mean (n=9)	3.89	3.89	4.33	3.89	3.89	3.67	3.78	3.89	3.78	3.67	3.33	3.78
	Standard Deviation (n=9)	.33	.33	.50	.33	.33	.86	.44	.33	.83	.50	1.11	.83
	Total Average (n=13)	3.84	3.84	4.07	3.84	3.84	3.61	3.69	3.76	3.69	3.46	3.38	3.84
	Total Standard Deviation (n=13)	.37	.37	.64	.37	.37	.76	.48	.43	.75	.51	1.04	.80

Table 2
Linguistic Knowledge and the Four Factors

		Usefulness of theoretical linguistics	Perception of linguistics as a science	Desire to teach theoretical linguistics	Environmental Factors
No theoretical linguistic knowledge	Mean (n=4)	3.62	3.75	3.50	3.50
	Standard Deviation (n=4)	.50	.46	.52	.79
With theoretical linguistic knowledge	Mean (n=9)	3.94	3.88	3.81	3.59
	Standard Deviation (n=9)	.58	.32	.55	.84
	Total Average (n=13)	3.84	3.84	3.71	3.56
	Total Standard Deviation (n=13)	.57	.36	.55	.82

Table 3:
Master's Degree Holders and the Four Categories

			Perception of theoretical linguistics as a science	Usefulness of theoretical linguistics	Desire to teach theoretical linguistics	Environmental Factors
Master's Degree	With linguistic knowledge	Mean (n=5)	4.00	4.00	3.83	3.33
		Standard Deviation (n=5)	.00	.64	.67	.81
	Without linguistic knowledge	Mean (n=2)	3.50	3.25	3.00	3.33
		Standard Deviation (n=2)	.57	.46	.00	.51
		Total Mean (n=7)	3.85	3.78	3.57	3.33
		Standard Deviation (n=7)	.36	.68	.67	.73

Table 4

Bachelor's Degree Holders and the Four Categories

			Perception of theoretical linguistics as a science	Usefulness of theoretical linguistics	Desire to teach theoretical linguistics	Environmental Factors
Bachelor's Degree	With linguistic knowledge	Mean (n=4)	3.75	3.87	3.83	3.91
		Standard Deviation (n=4)	.46	.50	.38	.79
	Without linguistic knowledge	Mean (n=2)	4.00	4.00	4.00	3.66
		Standard Deviation (n=2)	.00	.00	.00	1.03
		Total Mean (n=6)	3.83	3.84	3.88	3.83
		Standard Deviation (n=6)	.38	.57	.32	.85

CHAPTER V

DISCUSSION

The purpose of the research is to find whether the Rio Grande Valley's ELA public secondary school teachers' perceptions of theoretical linguistics is similar to the research others have conducted about the usefulness and need for linguistics in the classroom. The research presented in the literature review is based on real educator experience, observations of educators, feedback from students, and information gathered from linguistic program creators. All of the above reveal linguistic investigation at varying grade levels is beneficial for students and educators alike in order to have more knowledge about language and language patterns. Some researchers say linguistic investigation and analysis is helpful for the ESL student population and encourage ESL teachers to have a working or basic background in linguistics. In addition to its usefulness, researchers find the connection of the theoretical linguistics theory to that of scientific method type thinking. Further, some educators and program creators used both linguistic analysis and scientific method skills to allow students to investigate language problems and hypothesize about language issues and changes.

Though there are many benefits to linguistic investigation in the classroom, environmental factors surrounding school district and state curricula can affect the implementation of linguistics in ELA classrooms. Based on the literature, time is a factor in teachers deciding to implement linguistic analysis in the classroom. This is due to the main

concern of school curriculum to prepare students to take and pass a standardized state examination, also known as “testing to teach”.

Another environmental factor is the misconception that grammar teaching is not a big help in writing and helping students pass state examinations. However, based on the standards of the NCTE, TEA, and STAAR questions, linguistic investigation and analysis can help students answer those questions and help schools meet those standards. However, questions arise from this mentality since the TEA (2015) requires children in the fourth grade to “use and understand” parts of speech (p. 4-5), and The College Board (2015) requires its test-takers to know similar information to earn high scores on college readiness assessments. So, there is some utilitarian means for students to learn and educators to teach theoretical linguistics in the classroom throughout public school education.

Another argument is that students do not need to know linguistic investigation at the secondary level since not all students will be teaching grammar in their futures and not all ELA classroom concepts need a linguistic review. Additionally, there is the idea that most people do not know what linguistics is, so how can people encourage something that is unknown to them? Stakeholders who know what linguistics is and how it can be utilized in the classroom is the teacher who has taken a linguistics course and the linguists who teach the information to future generation. Public school teachers, however, may have reservations in readily teaching linguistics in the classroom.

One possible reason why educators do not directly introduce linguistics to their high school students relates to teacher education on linguistic topics. Based on The University of Texas Rio Grande Valley’s (2016b) Bachelor of Arts teaching certification requirements, students who want to be teachers need to take at least two linguistics courses: Introduction to

Descriptive Linguistics and English Grammar. The course objectives are to inform students of linguistic and cultural information. In connection to the survey data, nine teachers have taken a linguistics course. Current teachers may have been taught linguistic concepts during their post-secondary educational careers, but they are not discussing all the information with their own students. LaFond and Dogancay-Aktuna (2009) claim this may be due to some current educators not fully understanding linguistic concepts while in college, so they do not feel they can confidently and effectively teach the ideas to their students (pp.109-110).

However, generally, some English teachers who are aware of linguistic concepts may not immediately discuss or introduce those topics in the classroom based on perceptions of usefulness and effectiveness in teaching certain lessons, as seen in the survey trends. LaFond and Dogancay-Aktuna (2009) found experienced educators who knew linguistics knew specifically where linguistic analysis would benefit lessons, while new educators were more focused on their new knowledge as a general umbrella topic, rather than knowing what lessons those topics were needed (p. 356).

The lack of teacher education and linguistics in school curriculum in the concepts of language and language diversity could lead to the failure in ESL students successfully learning a new language, especially if teachers teach the new language through solely prescriptive rules and examination expectations. Referring to Holland (2013), there is an idea that ESL teachers should know linguistic analysis, not necessarily to teach students who are already overwhelmed with learning a new language but to understand and describe the languages involved in their students' education (p. 47). With the stress of learning a new language and a pressure to pass an English based examination, students may feel disinterested in learning new writing and reading skills when all their explanation references are vague and heavily connected to English and its rules.

Though adding linguistic practices on top of language learning could prove more difficult for ESL students, learning the reasons behind English patterns could help students understand their target language patterns rather than solely memorizing those patterns. Additionally, teachers could utilize their linguistic teachings in bilingual environments by learning successes and errors to provide effective feedback in writing and grammar practices.

This information led to research on the RGV and its public school ELA educators. The area was chosen because its schools have classrooms with a majority of Hispanic and bilingual students who speak another language other than English at home. The researcher sent an online survey to 11th and 12th grade educators across the RGV to gather their perceptions of linguistics as science, the desire to teach linguistics, the usefulness of linguistics in their classrooms, and the environmental factors that affect linguistics investigation in the classroom. The participant population was chosen due the language knowledge needed for investigative skills and language analysis, the idea that students at those grade levels have already been receiving subtle linguistic information for about ten years, and students are applying to college and choosing their majors.

The survey contained questions in reference to the participants' level of education, linguistic courses taken, and statements regarding their perceptions of theoretical linguistics in the classroom. Those questions and statements, seen in Appendix A, help to answer the following research questions:

Do teachers perceive theoretical linguistics as useful in the classroom?

Do teachers perceive theoretical linguistics as science?

Do teachers desire to implement theoretical linguistics in the classroom?

Do environmental factors influence theoretical linguistic education in public schools?

In order to categorize the variables, the Likert scale statements were divided into the following four categories:

1. Usefulness of theoretical linguistics in the classroom
2. Perception of theoretical linguistics as a science
3. Desire to teach theoretical linguistics in the classroom
4. Environmental factors that influence theoretical linguistic education in public schools

In connection to the literature, on average, all participants mostly agree on the usefulness of linguistics in the classroom. Participants with a master's degree who have taken linguistic courses and participants with a bachelor's degree who have not taken linguistic courses agree that linguistics is useful in the classroom. Statements within that category included whether or not linguistics was useful for teaching English grammar, teaching grammar to English monolingual students, and teaching grammar to ESL students.

Participants mostly agreed on perceiving linguistics as a science. Specifically, participants who have a master's degree and have some linguistic knowledge along with bachelor's degree holders who have not taken linguistic courses agree on perceiving linguistics a science. Statements within that category include encouragement of linguistics as schools encourage STEM studies and linguistics is a scientific method that can be used in an ELA classroom. These results correlate to the research that educators and linguistic program creators have used scientific method activities and strategies in connection to theoretical linguistic concepts, such as language investigation, language hypotheses, and X-Bar theory.

A notable difference between the literature and participant sample is seen in the desire to implement linguistics in the classroom and environmental factors affecting linguistic analysis

categories. On average, participants rated the desire to implement linguistics in the classroom as neutral toward agreement. For statement S9, *I do not feel comfortable teaching theoretical linguistics*, teachers, as an average, felt neutral toward agreement in how comfortable they feel teaching linguistics. In reviewing all the individual answers, nine participants feel comfortable teaching linguistics (not necessarily referring to the nine who have taken linguistic courses), while three respondents were neutral about the chance to teach it. Only one educator agreed about not feeling comfortable teaching linguistics. One idea as to why these teachers would be comfortable teaching linguistics could be based on the participants' response toward linguistics as a science. Based on the survey, most respondents mostly agreed to the perception of linguistics as a science or theory. If one thinks proven theories are useful for classrooms, that person may be willing to attempt to teach and feel comfort in teaching the theory, if given information on the topic.

In the environmental factors category, statements regarding state curriculum, schedules, and resources were included. On average, participants felt natural toward agreement for that category. Six respondents agreed that state curriculum plays a role in not implementing linguistics, which is almost less than half of the sample and the average response was mostly neutral. Participants felt mostly neutral in the semester's tight schedules affecting linguistics in the classroom. Individually, five educators strongly agreed with the statement, while three educators disagreed with schedules as a factor; the rest were neutral. Again, less than half of the sample blame time as a factor. Finally, participants mostly agreed on lack of available resources to help implement linguistics in the classroom. Ten participants agreed to strongly agreed that resources were a factor in linguistics in the classroom, with the other three feeling neutral or disagreeing with the statement.

The first two statement responses differed from the literature outcomes in that the sample tended to remain neutral or not put too much blame on the state curriculum and tight schedules affecting linguistic education in the classroom. These results are of interest considering the literature claimed time and "teach to test" curriculum was a primary factor in teachers not using linguistic analysis with their students. Another area of interest is that those who have a bachelor's degree mostly agreed that the environmental factors in the statements affected the teaching of linguistics in the classroom, while those who have a master's degree responded as mostly neutral in the category.

The sample from RGV educators are neutral toward agreement for the desire to teach linguistics and environmental factors category, and they mostly agree on theoretical linguistics as a science and perceive linguistics useful. There seems to be a want to implement linguistic analysis in the classroom, and environmental factors are not considered a major issue in impeding that teaching method. In addition, in connection to the RGV student population, the educators mostly agree that theoretical linguistics can benefit their 11^{th} and 12^{th} grade monolingual and bilingual students.

In this sample situation, there seems to be a desire to teach linguistics, a perception of the usefulness of linguistics for monolingual and bilingual students, and environmental factors that may not be a primary issue. Based on this information, the following sections in the chapter describe possible ways public schools teachers can start using linguistic investigation and its terminologies in the classroom while still following state standard curriculum requirements. In addition, since UTRGV has a research initiative, a possible recruitment or university demonstration idea is presented.

Language Comparison Opportunities in the Classroom

Recently, I took a class comparing three languages: English, Spanish, and an indigenous language of Mexico. The objective of the course was to compare and contrast language patterns asking native speakers of those languages about those patterns. In the course, undergraduate and graduate students who claimed their native languages of Spanish or English (job titles including educators, tutors, and retail workers) had a tough time explaining why languages patterns worked the way they do. All students discussed and picked up on their native language patterns along the way. Many answers for sentence pattern explanations were along the lines of: “That’s the way I was taught.” “I can’t say it around my family, so it must be improper.” “It’s slang, or used in another part of the country, but I think it’s okay to say.” These questions and explanations led to more questions, which was the basis of the course.

The professor of the course would then give us accepted answers based on linguistic research and general patterns past students have tried to explain.

For the later secondary education levels, during times of grammar and language discussion, particularly in a multilingual student environment, teachers can have students think about their own language teachings and usages. This can begin a discussion on the parts of speech, their definitions, along with semantic and pragmatic usages in relation to common and colloquial phrases. In the case of the RGV classroom, after showing students Spanish and English sentences, preferably with translations of each other, teachers can ask general questions, such as “What is a noun in English or Spanish? How can you tell it is a noun? What are some properties you can see that can help you remember this is a noun?”

Monolingual Spanish, Monolingual English, or bilingual Spanish and English speakers can contribute information based on what they use in every day speech (descriptive grammar)

and what they are taught (prescriptive grammar) from their families, textbooks, and other types of education (such as tutoring, ESL courses outside the school, or websites/programs that help ESL students), if applicable. They then can openly ask other questions about the languages without the lesson focusing on what is the "correct" or "incorrect" way to say phrases and sentences. The review of parts of speech, grammar patterns, and, possibly, introduction of the different phonologies can be part of the lesson to get students thinking about language differences and why people tend to struggle or retain language patterns when learning a second language.

Classroom discussions such as these also may lead to students challenging the definitions of parts of speech found in some textbooks, which can show students are willing to question the standards in their own language patterns and in other languages. Ideally, teachers would have to have answers to students' questions and/or assign students to further research this inconsistency in commonly used definitions.

This is an ideal situation where students at the 11th to 12th grade levels are not required to spend too much time on standardized testing and learning grammar concepts for those examinations since the students should have an adequate grasp of their language(s) by this age. This is to open the discussion to linguistics and have students critically think about language rules they are familiar with and have been surrounded by for many years. Though it seems this activity may take an entire class period, the teacher can set aside 10 minutes at the beginning or ending of class to make these observations. A short time period for this lesson may be easier for students since they may not be willing to talk about "right" and "wrong" grammar (connecting to socioeconomic status and acceptable grammar usage depending on native geographical area).

Also, it leaves the door open for curious students to research the information themselves outside the classroom.

Linguistic Olympiads and UIL

If the aforementioned activities cannot occur in the classroom, students in the RGV should have access to linguistic investigation outside of the classroom, as students in other countries do. In relation to the Linguistic Olympiads mentioned in the literature review, the closest competition Texas schools have is the University Interscholastic League, or UIL. The University of Texas at Austin created the UIL "to provide educational extracurricular academic, athletic, and music contests…and to encourage youngsters to enrich their education and expand their horizons" (University Interscholastic League Texas [UIL Texas], 2018a). Texas high school students have the opportunity to participate in the 29 different academic discipline contests that the UIL offers (UIL Texas, 2018b). The contests are:

> …to motivate students as they acquire higher levels of knowledge, to challenge students to confront issues of importance, and to provide students with the opportunity to demonstrate mastery of specific skills. Students are challenged to think critically and creatively, exhibiting much more than knowledge and comprehension. (UIL Texas, 2018b)

With the supervision and assistance of teachers, students train and prepare for the competitions throughout the school year, possibly reviewing past competition questions or teachers creating new problems for students to solve in practice. Teachers or UIL sponsors can recruit students based on their academic performance in class, or students can voluntarily join teams to prepare for the competitions in order win. Currently, students have the choice of competing in Literary

Criticism, Ready Writing, and Spelling and Vocabulary for the Language Arts section of the competition (UIL Texas, 2018c).

Generally, students who participate in the Linguistic Olympiads do not need to know about linguistics or cannot depend on memorization of facts to help them in the competitions; the problems rely on the student's "ability to understand and analyze a problem, envision a strategy for solution, and carry out that strategy in real time" (Derzhanski & Payne, 2010, p. 215). This competition idea and implementation can be added to the UIL contests for students who do well in their ELA classes and/or are genuinely curious about languages, especially those students who are exposed to multiple languages at home and at school. Teachers who think linguistics is an important area of English could show that encouragement, be the supervisors for their students, and give their knowledge as part of the competition preparation. Students can use their analytical skills both at the competition and in the classroom to evaluate texts, grammar, and writings for current and future language arts courses.

UTRGV and RGV High Schools Partner in Linguistic Education

As discussed in other research articles, some linguists of nearby universities offer to help students in secondary education see what the field of English has to offer. Linguistic professors or graduate students can observe and become involved in secondary education classrooms as part of helping ELA teachers with concept reviews and take over some class time to discuss linguistic investigations. Fortunately, the Rio Grande Valley has UTRGV, a university that spans across the counties. The university can send its graduate students or professors to the varying school districts to help teachers. Also, student tours are frequently given at UTRGV in relation to ongoing on-campus events or promotions. High school students can visit the campuses and be a part of some pre-determined courses to get a taste of linguistic courses. However, time, grants, or

funding for such trips is needed, which could lead to some issues. However, UTRGV has had successes with introducing high school students in the STEM fields with events such as Hispanic Engineering Science and Technology week, commonly known as HESTEC, which is to promote science and engineering studies. Therefore, there may be some wiggle room for the university and its Liberal Arts departments to help in the outreach and recruitment of future linguists, a science of language.

Teachers Attending Graduate School and Ongoing Classroom Research

Similar to what other researchers have done, graduate students who are currently ELA or ESL teachers have asked permission to use their university teachings in their high school classrooms. Since UTRGV is a research university and encourages its students to conduct research at the graduate level, doing the same type of classroom curricula in the RGV could help get a read on student perceptions of linguistics and whether or not teaching it is helpful in an RGV classroom. Many procedures, approvals, and protocols may need to be set in place, but with enough cooperation, time, and training, a few UTRGV linguistic or ESL concentration graduate students can start this type language investigation and analysis to note the successes and failures of linguistic concept teaching in a primarily bilingual high school classroom. They would gather data for both themselves as educators and the RGV's students.

CHAPTER VI

LIMITATIONS, FUTURE RESEARCH, AND CONCLUSIONS

Limitations

Factors of limitations for the survey include project approval from the IRB and some school district personnel. The delayed approval from the IRB caused for additional requests of school districts to allow the survey to be resent. Some districts needed to wait for upcoming meetings or committee member agreements from their research boards to extend their initial, approved timeframes. Those interruptions were expected of online and public school surveys, but anonymity of the participants and regulations within some school districts made the online survey a better choice for this attempt. Another limitation would be the participants and educators who qualified to take the survey. As mentioned before, only the 11th and 12th grade ELA educators could take the survey, with reasoning mentioned in the previous chapters. Some qualified participants may have also self-selected to take the survey about linguistics since they could review the background before taking the survey. This means those who really did understand some of their linguistics classes and tried to use that understanding responded to the survey, while others, who may or may not have been familiar with linguistics, may have been reluctant to take survey since they do not use it in their teachings.

In regards to the survey itself and the information given to participants before starting the survey, I would change a few statements and add more participant friendly information. Though the survey had *linguistics* in the title, all teachers who qualified were encouraged to take the

survey. However, some teachers might not have taken the survey since the title had a term or concept they did not know of or knew little about. In the background information, I could have had a statement encouraging all teachers to participate even if they were not comfortable or familiar with the term *linguistics.*

Further, I would have worded the questions a bit differently, added one or two questions, and added a few open-ended questions to have a clearer idea of why some participants remained neutral in their responses. For demographic questions, the years of teaching only had two options: 1-20 years and 20 or more years. At the time of the survey creation, years of education was not a stated issue in the literature in relation to the implementation of linguistics in the classroom. However, once reviewing the data and not seeing a major difference in all responses in correlation to those two options, making five-year increment options could have shown what newer educators thought of the statements versus educators who had more years of experience.

Since there was a mix of negative statements in the Likert scale section, data inversions on my part needed to be done to make the numbers accurate. If the project is repeated, I would make all the Likert scale statements positive to avoid that additional step and to avoid future confusion. For additional questions to educators, I would also ask if participants would be willing to attend workshops developed by linguists in the area or attend linguistic courses or programs now that they have an idea of what linguistics can offer their students.

I would add open-ended questions connected to the question: *How much of this linguistic knowledge have you implemented in your classroom?* If the responses were all but *None at All*, the follow-up questions would be along the lines of: *Why did you decide to use linguistics in your classroom? Did you use theoretical linguistic terminologies with your students? How did*

your students respond, or did the lesson improve their understanding of the topic? Briefly, provide an example of how you used theoretical linguistics in the classroom.

Another area where an open-ended question can be added is with the statement: *There not enough resources to implement theoretical linguistics in English classes.* If the responses are in the area of agreement, the follow-up question would be: *What types of resources would you like to have? For example, would you want textbooks with more theoretical linguistic information, a linguistic on campus, a workshop/program to work with many teachers, etc.?* This would help gain more insight into what teaching methods educators prefer in order to create a solution to the issue.

Goals for Future Research

Since this survey was given to current educators, the population could be expanded to more current and future educators of secondary education, specifically those who are attending post-secondary education. University students who wish to become teachers and are enrolled in education and linguistics courses may be the population to add to the current population in order to have data on what future teachers would implement in a curriculum based on their background of being students. Their responses may highlight the future of linguistics in the classroom in connection to desire to teach linguistics and its usefulness in the ELA classroom in years to come.

In addition to population growth and RGV school districts, charter schools, such as the RGV's IDEA Public Schools, could be added to the population of school districts since they, too, have a bilingual and majority Hispanic population. The comparisons would be to see if charter school educators have the same opinions as those of public school educators, or if charter schools are already directly implementing some theoretical linguistic curricula in their ELA classrooms.

In either situation, another goal would be for the researcher to interview the participants and gather their ideas on how linguistics can be implemented in the curriculum or ways other stakeholders can help. If they do not desire to use theoretical linguistics in the classroom or see it as not useful, the interviewer can also ask why and note where or which theoretical linguistic concepts would no work in the classroom.

Since students are the ones gaining this information, maybe, in a more structured timeframe, linguists can introduce students of any school age to linguistic topics and ask the students how they feel about the topics at hand: too difficult, need more information, would like to see it used in their classes, easy, fun, and/or interesting to study. From there, linguists can gain insight on the target audience and their opinions toward linguistics.

Conclusions

As seen in the literature review, linguistic education at the secondary level is taking off in European nations and positively influencing language research and analysis in those areas, causing more open-mindedness about language change and language variety. Those areas are seeing the necessity of learning and understanding languages because the locations are experiencing an increase in students and community members who are multidialectal and multilingual. Students of those programs and teachings were reported more entertained with learning English, investigating other language patterns, and willing to ask more language analysis related questions to peers and teachers.

As mentioned, this is not to say United States ELA curriculum does not touch on linguistic concepts at all. State examinations require students know parts of speech by fourth grade and use theoretical linguistic concepts in their last years of secondary education. Teachers give students information on traditional grammar through prescriptive grammar activities and

methods. This does help students become effective communicators and may help in their writing processes. However, the technical aspects of theoretical linguistics are missing in the classroom. For example, in connection to Fearn and Farnan (2007), students may only know verbs as words that indicate action, which can be easily disproven through theoretical linguistic knowledge. This typical definition could be confusing to ESL students and students who struggle with identifying parts of speech.

In the Rio Grande Valley area of Texas, students are known as bilingual English and Spanish speakers, but there are some students in the area who speak other languages at home or with familiars. However, schools across the United States have a strong monolingual English, standardized speaking and writing perspective, and this area is of no exception. The United States, a country with no official language, is also a country with many spoken dialects and living languages, so why is there pressure for its students in majority bilingual areas to speak and write only standardized English in order to pass a monolingual standardized examination? ESL students could lose a sense of identity, pride in their mother tongue, wanting to learn another language when they are connecting good grades and positive comments in their writing from following the rules of Standard English. With aspects of language change and language variety taught in schools, along with hands-on application of ways to understand the rules of language and other languages, monolingual and multilingual students may be willing to investigate and analyze languages as students in European programs are.

Based on their standards, goals, mission statements, and school curricula, school district curriculum designers are supposed to create and encourage teaching strategies and activities that prepare students for higher education or to be better members of society. Instead, there seems to be preparations and importance for standardized tests and school status through results from state

examinations. In addition to helping students know the Standard English language patterns, the curriculum and ELA classroom teachings should focus on the betterment of a social, multilingual society and have more focus on descriptive grammar patterns that students have been exposed to at home and within their own communities.

Currently, students can question why they need to write and speak a certain way, but they are met with answers such as, “Because that’s the correct way.” If students are taught and can investigate the varying syntax and word patterns that are allowed in common speech and writing, they would possibly understand the differences in formal and informal registers to use in certain settings. This can also allow ESL students to learn how the English language works depending on the context of the sentence or given readings.

However, curriculum change cannot quickly happen from one semester to the next, which is understandable and necessary for teachers to gain and review adequate knowledge in their new course curriculum. As mentioned in previous sections, all stakeholders need to deem linguistic education as a necessary concept students need to know to succeed in higher education, to be better communicators, and to be better members of society. Therefore, teachers are the ones who need be at the forefront in requesting for curriculum change since higher authority figures, such as state curriculum designers, parents, and state school administrators, are the persons who can officially change the standards in ELA curriculum requirements and course design.

At this point, any current/future educator or school curriculum design personnel is thinking about the ideal versus reality of the current situation and the call for implementing linguistic investigation in current ELA curricula. Linguistic analysis and education would ideally work in an environment where all students are readily able to grasp language concepts and are willing to actively participate in class discussions of these concepts. Schools would also need to

have the funds for developmental trainings and other resources, such as teaching assistants, university personnel, or tutors, to help educators who may struggle with teaching these concepts. The reality is no classroom or school district like this exists. Even as a university educator and tutor having experience with trying to get feedback and answers from students in and out of the classroom, I admit to that reality. The idea of students actually liking linguistic investigation and voluntarily engaging in class participation to ask for more activities is an ideal. This could be because students are more accustomed to being passive learners in the classroom since school systems do have the teacher at the front of the room, the textbook with all the answers on desks, and exams that ask questions where the answers are directly in paragraphs or sentences.

The goal of this paper is not make students passionately interested in linguistic investigation or to force students to learn all the background rules that go into identifying a part of speech. The goal is to find teachers' perceptions on whether or not linguistics would be useful and necessary to implement in their monolingual and/or bilingual classrooms since they observe and notice student struggles and may find some language concepts difficult to explain to all their students.

To gather information from RGV educators on these issues, 13 ELA educators from the area were asked 12 Likert scale statements. The statements were categorized into perceptions of linguistics as a science, the usefulness of linguistics in the classroom, the desire to teach linguistics, and the environmental factors influencing linguistics in the classroom. Those four categories were created to help answer the following research questions:

Do teachers perceive theoretical linguistics as useful in the classroom?

Do teachers perceive theoretical linguistics as a science?

Do teachers desire to implement theoretical linguistics in the classroom?

Do environmental factors influence theoretical linguistic education in public schools?

The data showed, on average, teachers mostly agree on the usefulness of linguistics in the classroom and perception of linguistics as a science. Additionally, there were more responses of agreement than responses of disagreement in the positive statements about the usefulness of linguistics, the perception of it as a science, and the desire to teach it in the classroom.

For usefulness of linguistics in the classroom, 11 out of the 13 participants were in agreement that linguistic analysis is helpful to teach English grammar, to teach their monolingual English students, and to teach their ESL students. The rest remained neutral. This means that even if teachers have not taken linguistic courses, they understand how theoretical linguistics is useful for their students when given brief explanations of the of theoretical linguistics concepts, as seen in Appendix A.

Teachers were neutral toward agreement in the desire to teach linguistics in the classroom, but, put together, nine participants disagreed when given the statement *I do not feel comfortable teaching theoretical linguistics*. This means with or without linguistic knowledge from taking linguistic courses in college, teachers may be willing to attempt teaching linguistics in the classroom. Further, most participants said they would like to use theoretical linguistics and syntactic analysis in their teaching.

Environmental Factors included state examination curriculum, tight schedules, and available resources to implement linguistic in the classroom. Six out of thirteen participants agreed state examination curriculum affects the teaching of linguistics in the classroom and the name amount of participants agreed schedules are too tight to teach linguistics; three disagreed with the tight schedules statement. Finally, 10 out of 13 participants say there are not enough

resources to implement linguistics in the classroom. Further, on average, the participants rated the environmental factors category mostly agree. However, the resources category may have raised the average since school curriculum and tight schedules rated mostly neutral. This shows those environmental factors do not play a primary role in the implementation of linguistics, a contradiction to the literature. This educator sample shows teachers want more resources to help them teach linguistics.

The literature states why teachers and stakeholders should know what linguistics is and how its strategies can help students of all cultural backgrounds actively learn English language patterns. With a little encouragement from curriculum designers to leave time available for theoretical linguistic investigation and with more data on educators who wish to utilize those concepts in the classroom and find the concept of linguistics useful for their student population, linguistic analysis and language discussion can occur in U.S. classrooms. Based on this survey, teachers require resources to help them communicate theoretical linguistic ideas to their students beyond the subtle linguistic information they have already been teaching students. In addition to meeting classroom and examination standards, linguistic investigation can help students and teachers be open-minded in accepting language differences inside and outside the classroom, which is a goal of some school districts across the United States.

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APPENDIX

APPENDIX A

Early Linguistic Education in Secondary Education in the Rio Grande Valley

This survey is being conducted by Ms. Ayla A. Galvan, a graduate student at The University of Texas Rio Grande Valley (email: ayla.galvan01@utrgv.edu).

The purpose of this study is to investigate the use and mention of the field of linguistics in secondary education by surveying language arts secondary school educators in select cities of the Rio Grande Valley. The data will provide an idea of how much linguistic knowledge and education, outside prescriptive grammar skills and exercises, teachers provide to their students in 11th and 12th grade.

This survey should take about 5-10 minutes to complete. Participation in this research is completely voluntary. If there are any individual questions that you would prefer to skip, simply leave the answer blank.

You must be at least 18 years old to participate. If you are not 18 or older, please do not complete the survey.

All survey responses that we receive will be treated confidentially and stored on a secure server. However, given that the surveys can be completed from any computer (e.g., personal, work, school), we are unable to guarantee the security of the computer on which you choose to enter your responses. As a participant, I want you to be aware that certain technologies exist that can be used to monitor or record data that you enter and/or websites that you visit.

Any individually identifiable responses will be securely stored and will only be available to those directly involved in this study. De-identified data may be shared with other researchers in the future, but will not contain information about your individual identity. This research has been reviewed and approved by the Institutional Review Board for Human Subjects Protection (IRB). If you have any questions about your rights as a participant, or if you feel that your rights as a participant were not adequately met by the researcher, please contact the IRB at (956) 665-2889 or irb@utrgv.edu.

What is your gender?

- O Male
- O Female
- O Other

What is your highest degree earned?

- O High School Diploma
- O Bachelor's Degree
- O Master's Degree
- O Doctorates Degree

What is your degree specialty? (Example: BA English in Literature, MFA in Creative Writing, etc.)_____

How many years have you been an English Language Arts teacher in the public school system?

- O 1 year to 20 years
- O 20 years or more

How long have you been teaching at this current grade level?

- O 1 year to 20 years
- O 20 or more years

What types of English Language Arts courses do you currently teach? Choose all that apply.

- [ ] Advanced Placement
- [ ] Dual Enrollment
- [ ] Pre-Advanced Placement
- [ ] Honors
- [ ] Advanced
- [ ] Other

Please indicate the "Other" types of English Language courses you currently teach.

_____

Have you ever taken a theoretical linguistics course at the post-secondary education level, such as Descriptive Linguistics, English Grammar, Phonology, or Syntax?

- O Yes
- O No
- O Not Sure

How much of this linguistic knowledge have you implemented in your classroom?

- O A lot
- O A moderate amount
- O A little
- O None at all

Please keep the following definitions and examples in mind when answering the next Likert scale questions regarding theoretical linguistics.

Theoretical Linguistics is an area of English study focusing on the abstract components of language, specifically phonology, morphology, syntax, semantics, and pragmatics. Students are asked questions to hypothesize reasoning behind those components of language by testing and thinking through their language knowledge. The following are examples of utilizing theoretical linguistics in language teaching.

Phonology concerns phonetics (speech sounds and the International Phonetic Alphabet) and analyzes allowable language sound patterns. For example, phonology allows for researchers to conclude the English language accepts the *t* and *l* sound combination in *A**tl**antic*, but it does not allow for the same combination to begin words.

Morphology deals with parts of words, along with analyzing and identifying how added or deleted affixes alter a word's root meaning. For example, adding –ed to the verb *determine*, the new word *determined* can remain a verb [past tense] or become an adjective [*determined person*]. Further, adding *-ation* to *determine* creates the noun *determination*. *Determine* itself cannot be broken into smaller pieces because *–mine* is not a suffix, and *deter* has a differing meaning on its own.

Syntax focuses on identifying parts of speech and how groups of words form sentences by using tests and patterns to showcase part of speech identification. For example, what part of speech is the word *computer*? *Computer* can come after *the*, *an*, or *my*. It can be pluralized *[computers*]. It allows for the possessive *-'s* [*The computer's hard drive is working now*.]. Since those tests are ways to find properties of nouns, *computer* would be a noun.

Semantics covers the meaning of our messages with the use of dictionary denotations and cultural connotations at the word, phrase, and sentence level. For example, *bank* can mean the place where money is involved or the end of a river, depending on the content at hand.

Pragmatics involves analyzing the use and appropriateness of our messages in certain situations and with certain populations. For example, a classmate making the neutral statement of "That presentation was 20 minutes" while in practice is considered constructive feedback than a judge commenting only that same statement after the presentation, which could show disinterest in the matter.

Please indicate your preference to the following statements by using the scale provided. You may use the back arrow button if you need to review the theoretical linguistics definition and examples.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Schools should encourage theoretical linguistics as they do STEM studies.	O	O	O	O	O
Theoretical linguistic investigation is a scientific method that can be used in an ELA classroom.	O	O	O	O	O
Using theoretical linguistic knowledge is useful in teaching English grammar.	O	O	O	O	O
Theoretical linguistics helps English monolingual students to learn English language patterns in the classroom.	O	O	O	O	O
Theoretical linguistics helps ESL students learn English language patterns in the classroom.	O	O	O	O	O
Theoretical linguistics is not useful in secondary education settings.	O	O	O	O	O
I would like to use theoretical linguistic knowledge in my teaching.	O	O	O	O	O
I would like to implement syntactic analysis in my teaching.	O	O	O	O	O

I do not feel comfortable teaching theoretical linguistics.	O	O	O	O	O
State examination curricula does not allow teachers to implement theoretical teaching techniques.	O	O	O	O	O
Semesters are tightly scheduled that we cannot implement theoretical linguistics in our teaching.	O	O	O	O	O
We do not have enough resources to implement theoretical linguistics in English Language Arts classes.	O	O	O	O	O

BIOGRPAHICAL SKETCH

Ms. Ayla Aizza Galván received Master of Arts in English with a Concentration in Linguistics from The University of Texas Rio Grande Valley in August 2018. She has also received a Bachelor of Science in Communication Sciences and Disorders from The University of Texas Rio Grande Valley in May 2016, graduating Magda Cum Laude. During most of her undergraduate and some of her graduate career, Ms. Galván was a writing tutor for the UTPA/UTRGV Writing Center for five years; she received CRLA Master Level III Tutor certification in 2015 and 2017 Tutor of the Year. In the Fall of 2017, she began student teaching junior level linguistics courses for two semesters. For any communication, Ms. Galván's mailing address is 3011 Floresta Subd., Edinburg, TX 78541.