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Bridging the Gap: TESOL Training in a Linguistics Department

The relationship between structural linguists and applied linguists is notoriously uncomfortable; each tends to view the others' focus and methods with suspicion. Despite this uneasy relationship many TESOL-focused master's programs are housed in Linguistics Departments. This article reflects on my experience in 1 such department and makes suggestions for how the 2 halves of the department could be integrated to the advantage of each group. Formal linguistic theory has the potential to very usefully inform classroom practice, while the language classroom is an ideal location to investigate the mechanisms of second language acquisition and add to the body of knowledge on how language acquisition functions. Specific ways in which formal linguistic theory can be applied in the ESL classroom are discussed.

Introduction

The TESOL-focused Master's in Linguistics Program (MA TESOL) at the University of California, Davis (Davis) is housed in the Linguistics Department, focuses on teaching adult learners, and offers teaching assistantships in both formal linguistics classes and ESL writing and speaking classes, all of which very directly fit my needs for a graduate program. I entered the program at Davis after graduating from a Linguistics Department at the University of Arizona (UofA), which was a strongly experimental and theoretical program. My interest in language, and specifically language acquisition, began at UofA, where I double majored in Linguistics and Spanish. During my time in the Linguistics Program there I had the opportunity to work as part of a research team looking at child language acquisition in both monolingual and bilingual toddlers. My experience in linguistics and language acquisition research, combined with an interest in teaching and teaching methodologies, led me to choose to pursue a master's degree in Linguistics with a focus on language acquisition and teaching.

Course offerings in the MA TESOL program at Davis include basic structural linguistics, teaching pedagogy, and applied linguistics classes. Because of my experience in a theoretically focused department, I was somewhat unprepared for the clear divisions between the "structural" linguists and the "applied" linguists in the department, stemming from their very different methods and

goals in linguistic study. The methods of the structural linguists were familiar to the point of being second nature to me; you either (a) collect linguistic data in a controlled experiment and analyze that data using statistical methods, or (b) investigate grammatical relations through introspection and collection of grammaticality judgments. In contrast, in my applied linguistics classes, I was frustrated by what, in some readings, appeared to me to be a willful ignorance of the scientific method in favor of case studies and activism. As a new grad student in the department I found it interesting to negotiate between the familiar world of theoretical linguistics and the world I was entering, with its focus on identity development and less firm metrics on the efficacy of language pedagogies. Functioning as a member of both of these worlds has given me the opportunity to reflect on both points of view and the ways in which, if mutual distrust of methods could be overcome, they could strengthen their respective aims and practices by borrowing from each other. This belief was strengthened by 3 years of ESL teaching in an Intensive English Program (IEP), and it continues to be strengthened through teaching ESL writing courses at Davis as a 2nd-year PhD student in Linguistics.

Integrating Structural and Applied Linguistics

Understanding the way in which language is acquired is essential to developing teaching methods that can make learning an additional language as quick and painless as possible. We, as language teachers, are well placed to observe the process of acquisition and make contributions to the greater body of knowledge on this topic. Experimental methods employed by structural linguists are easily implemented in second language contexts and have the potential to shed significant light on the process of language acquisition. In my 2nd year as an MA student, as a guided part of the program, I taught an academic writing class for incoming international graduate students, and in that class I was able to carry out a research project that aided understanding of a theoretical point in phonology (Messing, 2008). This project is an example of a way that all of us, as ESL teachers, can contribute to theoretical understandings of how language is acquired. I had noticed that my Mandarin L1 students were having particular pronunciation difficulties with stop+liquid consonant clusters (i.e., the /bl/ in *sibling* or the /tr/ in *atrocious*). This is a common problem and is often analyzed as "schwa-insertion" with the argument that because Mandarin does not allow consonant clusters, learners are inserting a /ə/ between the consonants to comply with their L1 phonotactic parameters. Using methods from laboratory phonetics, I was able to show that the segment that did often occur between the two consonants was not a schwa—it did not have consistent formant values—but was an "empty space" influenced by nearby vowels and the adjacent consonants. Rather than schwa-insertion, the pronunciation difficulties appear to be caused by gestural mistiming, as proposed in Hall (2007). This is not simply an arcane theoretical point, but it actually has implications for pedagogical practices and is an example of a way in which applied linguists can contribute to theoretical knowledge, as well as help to build a more solid foundation on which to base best teaching practices.

Theoretical Linguistics in the ESL Classroom

In the following sections I will discuss a sample of the ways in which a strong understanding of the principles of structural linguistics have been valuable to me in the ESL classroom. In the student populations I have worked with—1st-year international graduate students, upper-division undergraduate exchange students, and IEP students, many of whom are preparing for graduate or undergraduate careers in the US—there tends to be a preponderance of highly motivated analytical thinkers. These students are frequently unsatisfied with learning *how* to speak English; they also want to know *why* particular grammar points work the way they do, as well as the specific conditioning environments for pronunciation rules. This constant questioning "why?" led me to develop materials and strategies to incorporate formal structural relations into grammar lessons and techniques from acoustic phonetics into pronunciation lessons. These particular techniques address the learning styles of analytical engineering-type students as well as visual learners and could be used in a variety of classroom types.

Syntax in the Classroom

Teaching grammar was something that, at least among my MA cohort, was looked forward to with trepidation. Although we were confident in our intuition we were afraid that our students would know more about English grammar than we did, and that the "why?" questions would be difficult to answer. I imagine this fear is not uncommon among Americans educated in our K-12 system in the last 20-30 years; we were not taught grammar. Some MA TESOL programs make up for this by requiring grammar classes as a part of the curriculum, but others do not. Davis offers an upper-division undergraduate course on the structure of the English language, which includes grammar from a structural perspective, but it is not a required class. Syntax was also not required of my cohort, although that requirement has changed. Luckily I had a solid foundation in generative syntax from my BA, which I leaned on heavily to strengthen my ability to explain English grammar.

One topic in which my knowledge of syntax aided my ability to clearly explain a grammar point is the insertion of *do* in information questions. This comes up frequently in many classes, where I have found that students at all levels, even fairly advanced learners, often have difficulty knowing when the auxiliary should be inserted. Standard grammar texts explain do-insertion as either

1. Necessary for subject-auxiliary inversion in information questions, resulting in the rule that if there is no auxiliary (aux) to invert with the subject, the aux *do* must be inserted; or
2. As a rule that when the WH- word is *who, whom,* and sometimes *what,* that *do* should be inserted, but not with other WH- words.

These standard grammatical explanations work, more or less, but they are often followed by students' immediately finding the holes in the given rules and/or asking the question, "But, why?"

To conduct a lesson with students on do-insertion, I begin with a practice sheet that has a variety of statements with one noun phrase underlined; students are asked to make a question with the underlined part of the statement as the answer. The practice sheet prompts information questions with and without do-insertion:

1. Lions live in Africa and Asia.
2. The female lion takes care of the baby lions.

Students who have learned do-insertion following Rule 1 above often produce the following sentences:

1. Where do lions live?
2. *Who does take care of the baby lions?[1]

Those following Rule 2 give the following sentences:

1. *Where lions live?
2. *Who does take care of the baby lions?

Question types such as those above, in which the explicit rules students have been taught lead them to wrongly insert *do* in the question, most frequently have led to frustrated questions regarding why *do* is not inserted.

To address this question in an approachable, direct, and grammatically accurate way, I developed materials using phrase-structure rules and the idea of WH-movement based on a simplified version of X-bar theory (Chomsky, 1970; Jackendoff, 1977).[2] Beginning with phrase-structure rules, students are introduced to diagramming sentences using brackets and phrase-structure labels, as shown in Figure 1.

Once the phrase-structure concepts have been clearly explained, students are asked to find the pattern for *do* insertion. Students are generally able to express some variation on: "If the question word comes from the subject there is no *do* but if it comes from the object/verb phrase, *do* is inserted." At this point students are happy to have a rule, but some are still unsatisfied because this rule still does not answer the question of "why?"

Information Questions

Basic structure:

statement:

[$_S$ [$_{NP}$ subject] [$_{VP}$ verb [$_{NP}$ direct object [$_{PP}$ optional indirect object]]]]

question:

[$_{QP}$ [$_Q$ WH-] [$_{optional}$ "do"] [sentence]]

Example: He likes coffee in the morning.

[$_S$ [$_{NP}$ He] [$_{VP}$ likes [$_{NP}$ coffee [$_{PP}$ in the morning]]]]

Q$_1$: [$_{QP}$ [$_Q$ WH-] [$_{optional}$ "do"] [$_S$ [$_{NP}$ **??**] [$_{VP}$ likes [$_{NP}$ coffee [$_{PP}$ in the morning]]]]

[$_{QP}$ [$_Q$ Who] [$_S$ [$_{NP}$ **??**] [$_{VP}$ likes [$_{NP}$ coffee [$_{PP}$ in the morning]]]]]

Q: Who likes coffee? A: He likes coffee.

Q$_2$: [$_{QP}$ [$_Q$ WH-] [$_{optional}$ "do"] [$_S$ [$_{NP}$ He] [$_{VP}$ likes [$_{NP}$ **??** [$_{PP}$ in the morning]]]]]

[$_{QP}$ [$_Q$ What] [$_{optional}$ does] [$_S$ [$_{NP}$ He] [$_{VP}$ like [$_{NP}$ **??** [$_{PP}$ in the morning]]]]]

Q: What does he like? A: He likes coffee.

Q$_3$: [$_{QP}$ [$_Q$ WH-] [$_{optional}$ "do"] [$_S$ [$_{NP}$ He] [$_{VP}$ likes [$_{NP}$ coffee [$_{PP}$ **??**]]]]]

[$_{QP}$ [$_Q$ When] [$_{optional}$ does] [$_S$ [$_{NP}$ He] [$_{VP}$ like [$_{NP}$ coffee [$_{PP}$ **??**]]]]]

Q: When does he like coffee? A: He likes coffee in the morning

Figure 1. Section of student worksheet introducing bracket diagrams and phrase-structure rules.

A modified version of X-bar theory is useful, particularly for visual learners and students from computer science and engineering departments, as a visual answer to the "why?" question.[3] To begin with, a phrase-structure tree for a sentence similar to the example sentence in Figure 1, but which contains an auxiliary verb, is drawn (see Figure 2).

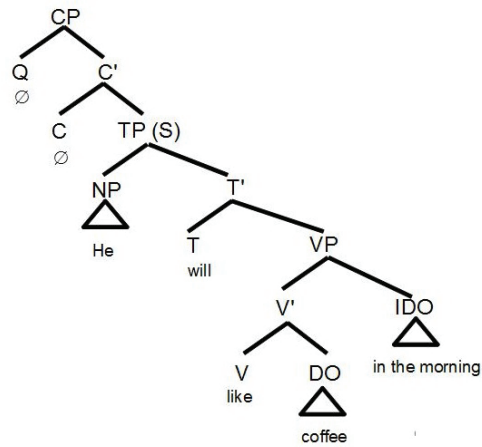

Figure 2. Phrase-structure tree for the sentence "He will like coffee in the morning."

I generally do this on the board rather than the worksheet, so students can see how the tree is built. Then trees for one question with the question word com-

ing from the subject (Figure 3) and one with the question word coming from the object (Figure 4) are drawn.

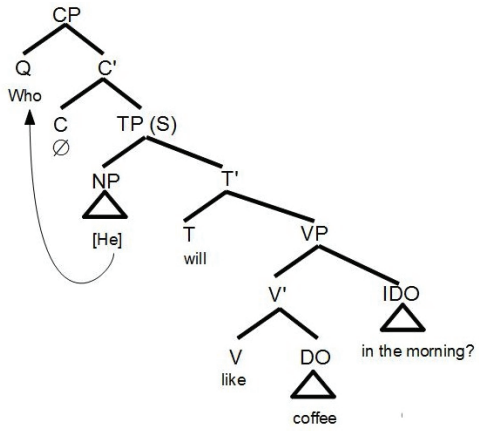

Figure 3. Phrase-structure tree for the question "Who will like coffee in the morning?"

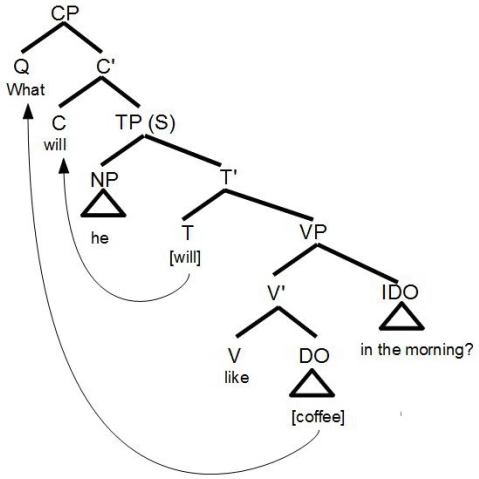

Figure 4. Phrase-structure tree for the question "What will he like in the morning?"

From these examples students can see that the auxiliary *will* raises to the complementizer of the tense phrase (TP/sentence) when the question word is raised from the verb phrase (VP), but not when it comes from the subject noun phrase (NP), resulting in what students are familiar with as subject-auxiliary inversion.[4] With this idea clarified the concept can be applied to sentences without an auxiliary, which tend to be the ones that cause the most confusion. For this, I return to the example sentences in Figure 1 and follow the same pattern of explanation as in the previous example sentence, beginning with the statement (Figure 5) and the subject-raising question (Figure 6).

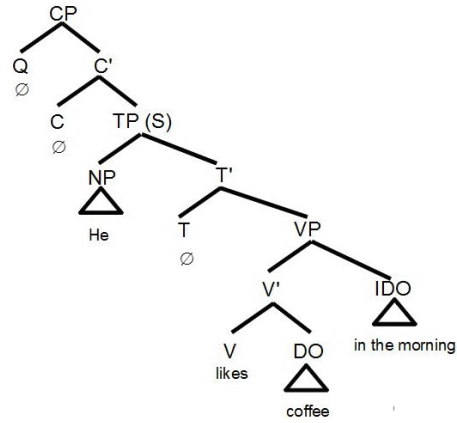

Figure 5. Phrase-structure tree for the sentence "He likes coffee in the morning."

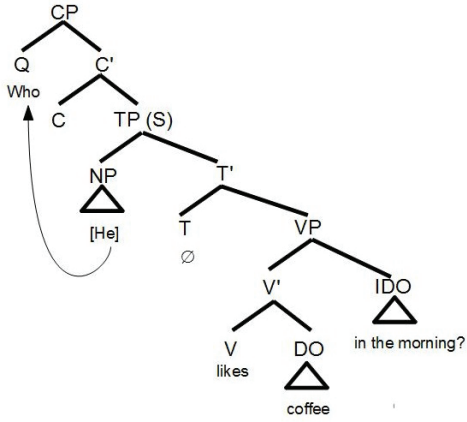

Figure 6. Phrase-structure tree for the question "Who likes coffee in the morning?"

When the final question is reached (Figure 7) I can address the motivation for do-insertion; in this construction sub-aux inversion is mandatory, and if there is no aux to invert, the "dummy" aux *do* must be inserted. Although this level of syntactic detail is often too complex, or simply too time consuming, for many classes, I have found it to be a useful and effective way to address students' frustrations with wanting to know why particular parts of English grammar behave the way that they do. Addressing grammar at this level of complexity, I believe, has led to a more collaborative feeling in my classroom. I have never been comfortable answering grammar questions with "because that's the rule," largely, I think, because as a language learner I was never satisfied with that answer. I know not all learners have this need to understand "why" and it has been apparent that not all students were invested in following the syntactic explanation, but for those who cared there did seem to be a palpable sense of satisfaction with getting an answer. Demystifying language can make it more

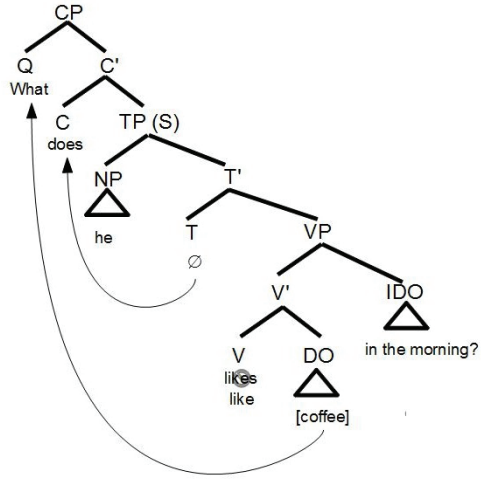

Figure 7. Phrase-structure tree for the question "What does he like in the morning?"

approachable and less intimidating to learn and I think that students appreciate the respect implied in my belief that they can understand the technical explanation for "why?"

Phonetics in the Classroom

I truly enjoy teaching pronunciation, but it can be a frustrating topic for both students and instructors. In my experience, not all, but many, students worry tremendously about their pronunciation and want to learn to speak "like a native speaker." Students are easily, and understandably, frustrated by the process of learning to produce and perceive new sound contrasts; the instructor produces a sound, and the student repeats back what he or she hears, the instructor says, "No, not like that, like this," and repeats the sound, prompting the student to really listen and try again, and the cycle repeats. Many iterations of this irritating cycle—students not being able to produce a target they do not yet perceive—led me to investigate ways in which more concrete methods of feedback could be incorporated into pronunciation teaching.

One way to give more concrete feedback on pronunciation is to allow students to see what they are learning to pronounce, in addition to hearing it. To do this, you can use tools from laboratory phonetics. One free, well-supported, and easy-to-download option is a program called "Praat" (Boersma & Weenink, 2012), which is frequently used for acoustic analysis and manipulation of speech. One way that I have used Praat to assist pronunciation teaching is as a feedback tool for vowel production. Figure 8 shows the F1 versus F2 vowel plot of English monopthongs for an advanced-level student I was tutoring in English (dark figures and lines), compared to average values for those vowels for female speakers from Northern California (light figures).

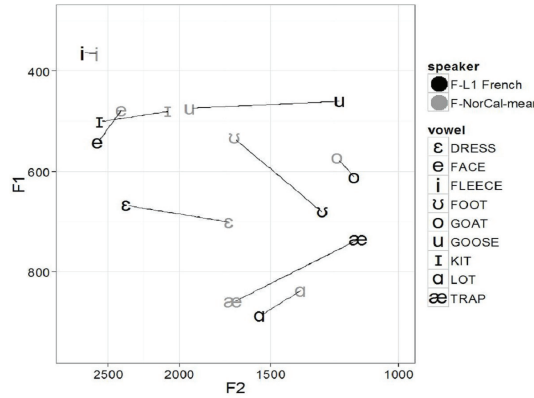

Figure 8. F1 versus F2 vowel plot of English monopthongs for one French L1 English learner compared to mean values for female Northern California speakers from a study now under way by the author. Lines connecting the two observations help give a sense of the relative distance from native-speaker norm for each vowel.

This exercise allows a student to see objectively how his or her vowel production compares to native-speaker (or whatever metric the instructor wants to set) norms. This particular speaker had been very frustrated by her perceived lack of progress in acquiring native speaker targetlike vowels, and she wanted to know exactly what she needed to work on to improve her pronunciation. This exercise allowed her to focus on /æ/, the /e/ ~ /ɪ/ distinction, and the high back vowels /u/ and /ʊ/, and to relax a bit about the others. This method could also be used to track progress across time, with beginning, middle, and end of the year recordings, for example.

Praat is also able to track intonation patterns, which can be used, as in Le & Brook (2011), to give students visual feedback on their intonation and help them to track their progress toward a specified model. Figure 9 shows the progress of one specific student who, with training, was able to improve her sentence final rising intonation on yes/no questions.

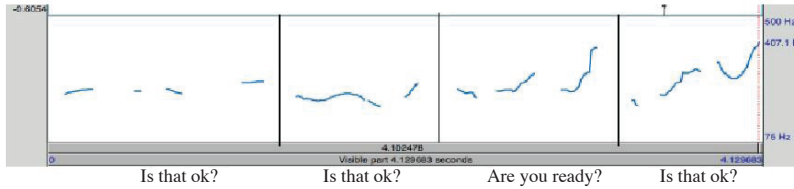

Figure 9. Intonation patterns of one low-intermediate ESL student before, during, and after intonation training using Praat, as compared to a native speaker model. Image from Le, H. T., & Brook, J. (2011). Using Praat to teach intonation to ESL students. *Hawaii Pacific University TESOL Working Paper Series, 9*(1, 2), 2–15 (http://creativecommons.org/licenses/by-nc-nd/3.0/us).

An additional but somewhat more difficult to use method for pronunciation instruction using Praat involves teaching students to read spectrograms, and then using those spectrograms for visual feedback on segment production. This technique could be particularly effective in training students on the /l/ versus /ɹ/ contrast in American English. These two sounds are notoriously difficult for Japanese speakers in particular, and in my experience they are very difficult to teach, particularly in terms of perception. I am sure I am not the only pronunciation instructor who has spent time in front of a class trying to get the students to watch my articulation and really *hear* the difference. Zhang et al. (2009) show that with varied input and visual cues, Japanese learners can make improvements in /ɹ/ ~ /l/ perception and production in a relatively short time. They use video stimuli of various speakers pronouncing the two segments in various contexts and with various levels of exaggeration, which is clearly useful, but I believe that spectrographic input could be added as visual stimuli, with the added benefit of being useful as a feedback mechanism for production.

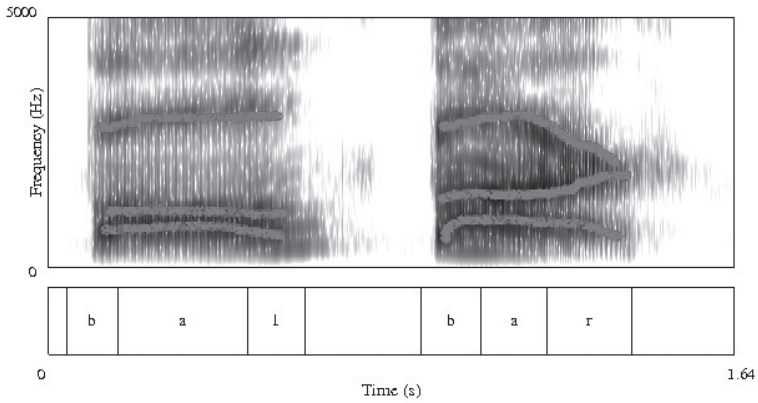

Figure 10. Spectrogram of the words *ball* and *bar* with formant trajectories marked.

The spectrogram shown in Figure 10 is an example of what students could, first, be given as input, and then be asked to produce and compare to the target. The reason that /ɹ/ ~ /l/ is such a good candidate for this type of exercise is that the two sounds can be easily distinguished by examining the third formant (F3) on the spectrogram. When following a vowel /l/ has a distinctively high-rising F3, while the F3 of /ɹ/ is low-falling. This visible difference could be used first in training students, so that while they listen to (ideally) many different speakers produce words with /ɹ/ and /l/ segments, they could observe the F3 trajectories and begin to connect that visual identification with the sound that they are hearing. After some amount of training students could begin to record themselves and check their formants to see if they are approaching target norms. The further advantage of this system is that it could allow students to engage in self-study, but with reliable feedback on their productions.

Bridging the Gap

The several examples presented here of how to make use of methods from formal linguistic theory to teach ESL are just a sample of what can be done with a solid foundation of linguistic knowledge. This foundation in linguistics is not universal among TESOL professionals, as many come into teaching from diverse directions. Between my department and the IEP where I worked, I have taught with people with at least the following breadth of undergraduate majors: Mathematics, English, Anthropology, Linguistics, Sociology, Business, Computer Science, Chinese, Spanish, Russian, Comparative Literature, Creative Writing, and Elementary Education. This diversity of background enriches the profession, but it also makes it impossible to assume that anyone entering a MA TESOL program has been exposed to theoretical linguistics. And, from what I have seen, linguistics classes are often not included, not taken seriously, or not well incorporated into MA TESOL programs, to the detriment of all involved. To remedy this, I encourage prospective ESL teachers to make use of opportunities to learn formal ways of describing and researching language. I also encourage professors teaching formal linguistics classes to reach out to the TESOL-track students in your classes, who may be less apparently interested in linguistics, and help them to find ways that they can make theory applicable to practice. Most theoretical graduate classes require a term paper or project, which is the perfect opportunity to have those students interested in language acquisition pursue that interest. For a Phonetics class a project could be done looking at learner acquisition of a particular phoneme or learners' ability to produce or perceive novel phonetic contrasts. In a Syntax class, patterns of auxiliary use could be looked at and compared to L1 and/or L2 norms. Each of these projects could then be used to make specific proposals for classroom applications.

Conclusion

Although the two halves of my department are not completely comfortably integrated, by drawing on methods and theories from all sides I have been able to improve my teaching skills and strengthen my research. My teaching has benefited from the integration of structural linguistics theories, which help me address the particular learning styles of many of my students and provide concrete feedback on pronunciation. Drawing on the viewpoints on language acquisition provided by applied linguistics approaches and the experiences and language production of language learners has broadened my perspectives and research approaches, as well as allowing me to find ways to use my research to improve my pedagogical practices.

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Cory Holland earned her master's in Linguistics from the University of California, Davis in 2008. After 3 years of teaching ESL in an Intensive English Program she returned to Davis to pursue a PhD in Linguistics, where she continues to teach Linguistics and ESL classes as well as research phonetics and language acquisition.

Notes

[1]The "*" symbol is used to indicate an ungrammatical sentence.

[2]*Syntax: A Generative Introduction* (Carnie, 2002) is an extremely helpful introductory text.

[3]Note: CP=complementizer phrase, Q=question word [specifier of CP], C'=C-bar [complement of CP], TP=tense phrase/sentence, NP=noun phrase, T'=T-bar [complement of TP], T=tense [specifier of T'], VP=verb phrase, V'=V-bar [specifier of VP], V=verb [head of VP], DO=direct object [complement of V'], IDO=indirect object [adjunct of V']. Please also note that the terms *direct object* and *indirect object* are used in their traditional grammatical sense, their status is somewhat controversial in X-bar theory, and their inclusion here should not be taken as any sort of theoretical stance.

[4]This is an example of one modification of X-bar that simplifies the explanation for students. In X-bar the T node raises to the C node in both cases, but it results in a change in surface structure when the question word is raised from the object, but not when it is raised from the subject. I have found that fact to be unnecessarily confusing to students and so simplified the theory a bit to facilitate the point I am trying to make.

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