Teaching Lexical Stress: Effective Practice in a Mandarin ELL Context

Ethan Oliver

A Senior Thesis submitted in partial fulfillment
of the requirements for graduation
in the Honors Program
Liberty University
Fall 2020

Acceptance of Senior Honors Thesis

This Senior Honors Thesis is accepted in partial
fulfillment of the requirements for graduation from the
Honors Program of Liberty University.

_____

Jaeshil Kim, Ph.D.
Thesis Chair

_____

Yan Xie, Ph.D.
Committee Member

_____

James H. Nutter, D.A.
Honors Director

_____

Date

Abstract

Current trends in teaching pronunciation to ELLs (English Language Learners) point towards a "top-down" approach. This refers to putting emphasis on the overarching prosodic features of English rather than the proper pronunciation of consonants and vowels. One of the most integral prosodic features in English is stress. Both lexical stress (stressed syllables within a word) and sentence stress (stressed words within a sentence) play an important role in the prosodic pronunciation of English. However, some languages, such as Mandarin, lack stress in their prosodic systems, instead employing features such as tonality. These languages both have overlap in their fundamental prosodic structures, with pitch changes as integral to both tonality in Mandarin and stress in English. I propose that ESL instructors will instill prosodic skills and thus make better communicators of their students by drawing attention to this positive transfer between both systems.

Teaching Lexical Stress: Effective Practice in a Mandarin ELL Context

Rationale

Background

English teachers are a sought-after commodity around the world. China's rapid development has evolved the once-closed nation into a crossroads of global trade. This creates a high demand for English teachers, which in turn sets an encounter of two disparate languages in classrooms across China. Pronunciation teaching is a key component of creating the communicative clarity necessary for today's ESL students. However, pronunciation remains one of the most difficult areas of negative transfer for Mandarin-speaking ELLs to navigate.

Pronunciation teaching is already an inherently difficult endeavor. Controversies and conflicting information over best practices, lack of defined guidelines, and scarcity of materials for beginners are all complaints of ESL teachers struggling to employ effective pronunciation teaching (Darcy et al., 2012). These struggles become even more discouraging when interposed with the mentality that Mandarin and English are irreconcilable opposites among the world's languages. This daunting gap goes beyond mere differences between vowels and consonants, and manifests in the contrast between the English stress system and the infamous tonal system of Mandarin.

Ample literature is available for ESL teachers to analyze the fundamental differences between Mandarin and English prosody (Eady, 1982; Yang, 2015; Zhang et al., 2008). Even when ESL teachers want to teach stress, intonation, or rhythm, they can see these features as too nebulous or complicated for the classroom because of the complexities of both systems. However, with a close look at both stress and tone, the most salient components of both systems, we can bring clarity to the fundamental similarities that undergird both prosodies. By taking

advantage of this positive transfer that can occur between the Mandarin tonal system and English stress, ESL instructors can improve their students' understanding and pronunciation of stress, and thereby their overall communication skills.

Prosody and Pronunciation

Role in Communication

To substantiate any basis for teaching stress to Mandarin ELLs, we must first explore both the significance of prosody in communication and thus second language acquisition. Linguists divide spoken utterance into two spheres: the segmental and suprasegmental. The phonological structure of all languages can be segmented into syllables consisting of consonants and vowels, the "segmental" features of language. The other acoustic features that run throughout the rhythm of these syllables, such as pitch, syllable duration, and intensity/volume, are the "suprasegmental" features of the language. Just as every language has its unique repertoire of consonants and vowels, each language varies in its "prosody," or language-specific patterns of suprasegmental features.

Because every language has prosody, learners will attempt to make meaning of suprasegmental input regardless of whether the context is L1 or L2 (Field, 2005). Thus, despite fundamental differences between stress and tone, these prosodic systems employ the same acoustic features: pitch, volume, and duration. These features play a role in any spoken language; they are simply implemented differently in each individual language. Good prosodic understanding can make a significant difference for a language learner by helping them scaffold the prosody they already have in their L1 into the new environment of the L2.

Research demonstrates the difference that prosody makes in comprehensibility. Suprasegmental features are just as vital as segmental features in promoting comprehensibility

and diminishing accentedness (Crowther et al., 2014). This is grounded in a core component of both speaking and listening skills: parsing. While students are listening, they must be able to parse input by separating information into meaningful chunks. Gilbert (1984) refers to these chunks as "thought groups." Thought groups are not grammatical but phonetic units, and can be phrases, words, or sentence segments that occur throughout an utterance.

Thus, prosodic understanding gives students a sound rationale for parsing words and thought groups by helping them listen for a target structure (e.g., stress) that helps them categorize meaningful information (McAndrews, 2019). If learners can do this, they will have a rationale for producing sentences in a comprehensible manner. A non-native speaker's ability to follow the natural stress and rhythm of an utterance can override the smaller segmental mistakes that they make (Field, 2005). Altogether, as ESL teachers, our confidence in introducing lexical stress to the classroom is vital to the communicative success we want our students to achieve.

Role in Pronunciation Instruction

Background. Over the past few decades, second language acquisition studies have begun to take a focus on the importance of suprasegmental features. Traditionally, however, ESL teachers have given the segmental features of pronunciation much more attention. Communicative language teaching (CLT), which arose in the 1970s, has influenced much of modern SLA theory, and is responsible for the renewed interest in prosody instruction (Murphy & Baker, 2015).

CLT contextualizes language learning as an implicit process within real-world situations, distanced from drills and conjugation tables. However, some argue that the orientation toward implicit learning has often ignored pronunciation instruction as a hyper-explicit impediment to language acquisition (Nair et al., 2017). Under the legacy of CLT, many ESL instructors enter

the classroom not knowing how to teach pronunciation (Murphy & Baker, 2015).

Rise of Suprasegmental Emphasis. Judy Gilbert's *Clear Speech* (1984), a holistic pronunciation manual for ELLs, offered a prosody-focused context for learners that emphasized teaching stress and intonation to parse "thought groups." Pennington built upon this by advocating "top-down" approach to pronunciation in the aptly named 1989 article, "Pronunciation from the Top Down." She posited that speakers do not produce language from the "bottom-up," that is, as interconnected sounds and words strung together to create meaning and context. Rather, they form language from the "top-down," taking the "pragmatic, semantic, syntactic, and phonological context" (Pennington, 1989, p. 205) as a foundation upon which the smaller bits of language are assembled.

One example that she uses to support her claim is the English phrase "I don't know." If stripped of its segmental features and transformed into a nasal overlaid with the basic prosodic contour, that mumble is still comprehensible (Pennington, 1989). Her holistic approach creates a system more in line with communicative, implicit methodology. Out of the late 1980's and 1990's came a suprasegmental/segmental debate that pervaded SLA theorists' mindsets on pronunciation (Murphy & Baker, 2015).

Altogether, segmental features are more salient and concrete, and thus may seem easier to teach. Vowels and consonants are integral to teaching individual words and introducing them. Without them, introducing the written language would be difficult: the alphabet covers only segmental features. The purpose of this research is not to promote top-down approach as the ideal for every classroom. Rather, understanding these approaches and their impact on modern SLA, particularly in the role of CLT and implicit instruction within them, provides a helpful framework for teaching prosodic forms.

Mandarin vs. English: Prosodic Contexts

English Stress

Basics

For an ESL instructor to develop any curriculum directed towards an L1, an understanding of the fundamental features of both the L1 and target language must be established. In English, suprasegmental features such as stress, intonation, and rhythm are all essential parts of communication. There is much more to English prosody than a dichotomy between stressed and unstressed syllables. However, stress is not merely one given suprasegmental feature amongst others: it is fundamental to the entire prosodic rhythm of English. Thus, English teachers must keep this mentality when exposing their students to the English stress system.

Within the English prosodic repertoire, stress is the main means of displaying prominence, or singling out one phonological unit within a longer phonological unit (Fudge, 2016). English is a stress-timed language, meaning that stressed syllables serve as "beats" that keep time with the unstressed portions that occur between each stressed syllable (Pennington, 1989). The overarching rhythm and intonation within English is thus based on the crucial timing of stressed syllables. For a Mandarin speaker attempting to clarify their speech, knowing how and where to apply stress provides the gateway to a broader mastery of prosody.

Within sentences, stress can be variable and singles out a word, often for the sake of emphasis [e.g. "Are you going *there*?" or "Are *you* going there?"]. Sentence stress has pragmatic implications important to the holistic instruction environment of top-down pronunciation teaching (Pennington, 1989). Sentential stress is no secondary issue; it is fundamental to English rhythm and overall communication, and thus vital for ELLs. However, this research focuses on

lexical stress, stress relevant to individual words. While interactions between lexical and sentential stress are integral structures in prosody, the constraints of this research limit my focus to lexical stress in correlation with the word-specific nature of the lexical tone properties of Mandarin.

The Role of Lexical Stress

Just as sentence stress marks word prominence within a sentence, lexical stress uses the same acoustic properties to mark syllable prominence within a word. Therefore, the only syllable of a monosyllabic word, especially content words such as *cat* (n.), *run* (v.), *blue* (adj.), will always receive stress. Function words such as articles (*the*, *an*) or prepositions (*of, for*) often go unstressed in accordance with associated words (Fudge, 2016). Multisyllabic words are thus where lexical stress emerges as most significant. All multisyllabic words contain a stressed syllable pronounced in contrast with unstressed syllables, as well as secondary stress in words with four or more syllables (Fudge, 2016).

Lexical stress is thus an integral part of listening skills. Perception studies show that infants at nine months already begin using stress patterns to find word boundaries (Thiessen & Saffran, 2003). Stress perception promotes not only intelligibility, but the ability to comprehend the complex patterns of lexical stress. Native and non-native listeners alike find misallocated lexical stress less intelligible (Field, 2005). Proper stress production is arguably the most important suprasegmental factor in ensuring comprehensibility. Mandarin ELLs who wish to improve their pronunciation must then grasp both stress production (how to pronounce stressed syllables) and stress placement (which syllables to stress within a word or utterance).

Stress Production

Phoneticians agree that English relies on four acoustic correlates: pitch, duration,

intensity, and vowel reduction (Gay, 1978). Thus, English stressed syllables involve higher pitch, more time, and louder volume, and will never have the internal vowel changed into a schwa [ə]. On a technical level, however, linguists are divided on how the acoustic properties of stress in English interact (Keyworth, 2014). The ambiguity centers on which of these factors is most salient to the native ear. This debate is important concerning how Mandarin speakers experience transfer, as "salience" can be relative in respect to the native language of the listener. The prosodic system of Mandarin results in a different perception for a Mandarin L1 listener than an Arabic L1 listener, whose language has similar acoustic stress correlates to English (Keyworth, 2014).

Pitch. Pitch is one of the most relevant to this research of the acoustic correlates. Whether a pitch is high or low depends on the frequency of the sound, which is controlled by the speed at which the vocal folds vibrate (Eady, 1983). All speech operates on a fundamental frequency (abbreviated as F0), which refers to the baseline pitch which fluctuates in accordance with each specific prosodic system (Eady, 1983). Pitch is not only an important component of English stress production, but the most important factor in Mandarin tonality.

While factors such as vowel height and intonational patterns raise pitch, stress has the greatest effect on F0 (Eady, 1983). These pitch raises occur not only in individual syllables, but in whole words receiving sentential stress. In fact, pitch raises most significantly when found in the stressed syllable of the word receiving the sentence stress (Fudge, 2016). Aside from the pitch raises themselves, certain contours can emerge in stress; final syllables tend to follow a falling tonal pattern when they are stressed (Fudge, 2016).

Intensity. In English, stressed syllables tend to be louder than unstressed ones. Often, the "strength" of a syllable is used to define a broad, cross-linguistic concept of stress (Gay, 1978).

However, research does not point to volume, or "vocal intensity" as the sole driving force behind English lexical stress (Fudge, 2016). Gay (1978) proposes intensity as the primary, salient driving force of stress. By this concept, the correlates of stress, raised pitch, raised volume, and even longer duration are all the result of altogether increased effort in the organs of speech. Thus, "greater laryngeal pressure" serves as the driving force of English prosody (Gay, 1978).

Duration and Reduction. English speakers spend more time on stressed syllables. This is relevant not only to stress perception, but also the underlying rhythm of the English language; duration is the driving force behind stress-timing. The time intervals between two stressed syllables will be consistent throughout an utterance (Fudge, 2016). Stress-timing gives English a different rhythm than that of syllable-timed languages such as Japanese or Spanish. This underlying rhythm in turn affects segmental features through vowel reduction, where many, but not all, vowels center to a schwa [ə] when they are unstressed (Fudge, 2016).

Prosodic rationales can radically affect segmental phonetics. In English, knowing the stressed syllable is key to knowing the pronunciation of the vowels within a word. This segmental byproduct seems to bear more salience than the other correlates of stress. For example, Cutler (1986) analyzed various pairs such as *dis*count/dis*count* and *for*bear/for*bear*, a set which involves no vowel reduction and thus has no segmental variation. The native English speakers being studied had little success distinguishing the minimal pair with only prosodic information (Cutler, 1986). Though all correlates are integral to stress production, vowel reduction, because of its segmental significance, is by far the most salient correlate of stress perception for the native speaker. The connection between vowel quality and stress can serve as a benefit for Mandarin ELLs by providing a scaffold of something they already understand, vowels, for the new concept of stress.

Stress Placement

English lexical stress is consistent, yet rather unpredictable (Fudge, 2016). Stress will always occur at the final syllable of "commit" and the penultimate syllable of "carnation." Sadat-Tehrani (2017) divides sixteen stress rules into four main categories: word categories, compound nouns, verb/noun pairs, and suffixed words. "Word categories" refers to the standard rules such as the tendency for nouns and adjectives to take penultimate stress (Sadat-Tehrani, 2017). Compound nouns tend to receive penultimate stress to differentiate them from adjective-modified nouns; for example, the difference between *red* (adj.) *néck* (n.) and *rédneck* (n.).Verb/noun pairs are minimal pairs such as *óbject* (noun) and *objéct* (verb) or *présent* (noun) and *presént* (verb)[1] which can be difficult for ELLs of all native tongues.

Suffixed nouns are also significant exemplars of the complexity of English stress shifts. When derivational affixes are added to words stress can shift to another syllable; for example, *cómpliment* becomes *compliméntary* (Fudge, 2016). This suffix moves the stress to the root syllable closest to it (Keyworth, 2014). This is further complicated in suffixes which build upon one another; *hístory* shifts when suffixed to *históric,* maintaining that shift in *hístorical* but shifting even further in *historícity.* There are yet plenty of situations where derivations do not affect stress; *wónder* does not shift stress when adjectivized into *wónderful.* Altogether, ELLs face the daunting reality that these shifts occur on a case-by-case basis.

The seemingly lawless, yet unshifting, nature of English stress complicates teaching any structure or rules to ELLs. Sadat-Tehrani (2017) thus concludes that these rules are essential to ESL stress understanding and should be taught as "metalinguistic information" rather than implied through CLT. Nevertheless, even with the significant number of multisyllabic words that

[1] Though I refer to these as minimal pairs, segmental changes due to vowel reduction (e.g. [ˈprɛˌzənt] to [ˌprəˈzɛnt] or [ˌpriˈzɛnt]) should be noted. See the above section "duration and reduction" for clarification on vowel reduction.

exist outside trochaic/iambic dichotomy, the consistency of stress for specific words can help ELLs memorize the patterns as integral parts of each lexical item.

Mandarin Prosody

Mandarin prosody is marked by a property known as lexical tone[2]. This system, which is quite foreign to English speakers, every syllable is assigned one of four tones: level, rising, falling-rising, and falling, also referred to as first, second, third, fourth, respectively (Eady, 1982; Yang, 2015).

Tones and Pitch

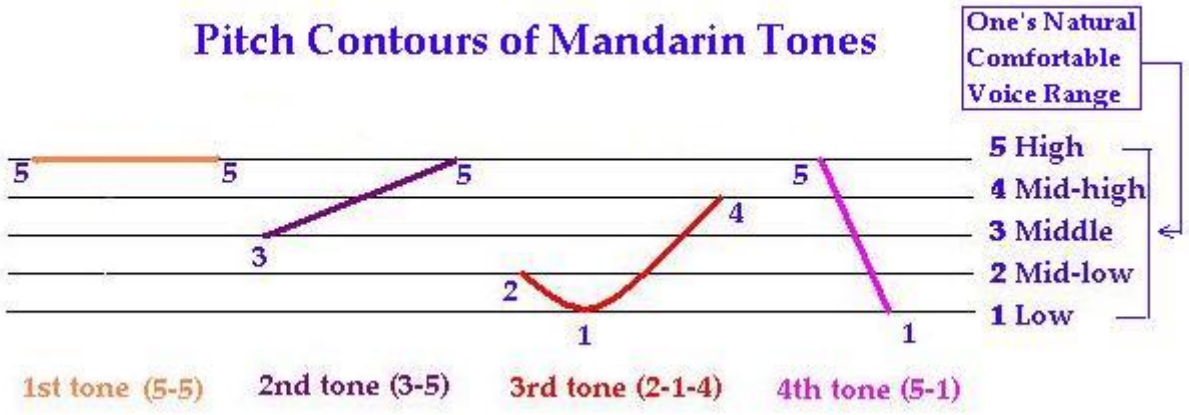
Unlike the array of acoustic factors governing English stress, the four Mandarin tones are determined by two pitch-based features: value and contour (Yang, 2015). Thus, we can say that while English F0 is determined and directed by prosody, Mandarin prosody is determined and directed by F0. Value refers to how high or low a pitch is registered. The standard enumeration for Mandarin pitch is 1-5, from lowest to highest (Yang, 2015). For example, the first level tone is described as maintaining level 5, and is marked [^{55}] (Yang, 2015). Note that all values that occur in Mandarin speech are also utilized in English speech. The difference is merely in how these values are employed: lexically in Mandarin, while intonationally in English.

However, the other tones in Mandarin are described in terms of contour, or the movement of the pitch. The second tone moves from a middle pitch to the highest pitch [^{35}], the third drops from a mid-low pitch to the lowest before rising to a mid-high pitch [^{214}], and the fourth drops from the highest to the lowest [^{51}] (Yang, 2015). These shifts in pitch are salient and relevant to word recognition in Mandarin (Malins & Joanisse, 2010).

[2] I use the term “lexical tone” as opposed to “grammatical tone,” a form of tonality that marks grammatical function of words. This feature is not found in Mandarin or other Sinitic (Chinese) languages.

Figure 1

Pitch Contours of Mandarin Tones



The pitch levels and associated numerical values of each the four tones in Mandarin. From "Mandarin Tones" by MIT Online. (http://web.mit.edu/jinzhang/www/pinyin/tones/index.html)

For example, *mā* means "mother," *má* "hemp," *mǎ* "horse," and *mà* "to scold." A mere change in tone superimposed over segmentally identical words creates an array of words with distinct semantic differences. However, like English, the segmental features of Mandarin seem to bear greater salience. For instance, Ye and Connine (1999) discovered that native Mandarin speakers were significantly better at differentiating vowel minimal pairs than tonal minimal pairs. Altogether, these minimal pairs are nevertheless bizarre to an English listener. They can be somewhat likened to the verb/noun lexical stress pairs in English such as *convért/cónvert*, with the primary exception that in English, this is only relevant to multisyllabic words.

While English only affects specific syllables within an utterance, every syllable in Mandarin is affected by tone (Eady, 1982). Tone, like English lexical stress, is thus grounded in the vowel. While no segmental phonemes change, one tonal change can form a new word. Thus, Mandarin tones have the salience to differentiate morphemes, while still affecting whole syllables like suprasegmental features do (Malins & Joanisse, 2010). Thus, because of drastic

shifts in tone syllable by syllable, the fundamental frequency of Mandarin fluctuates more within an utterance than it does in English (Eady, 1982).

Stress in Mandarin

The role of stress in Mandarin is quite controversial. Some suggest, because of certain constructs, that Mandarin is a stress-timed language like English (Pennington, 1989; Chu et al., 2003). A neutral tone *sandhi*[3] exists in Mandarin, which is represented by short, functional syllables that do not adhere to one of the four tones (Jongman et al., 2006). Particles such as the versatile marker *de* in the construction *wǒ de* ("my") are "atonic" syllables and are shorter than the tonal syllables that they follow (Jongman et al., 2006). These atonic syllables are bound morphemes and cannot stand as words alone (Jongman et al., 2006). While these examples somewhat resemble the reduction of articles, prepositions, and other function words in English, the acoustic properties employed are still distinct from the English stress system.

Chu et al., (2003) propose stress as a significant tool for differentiating morphemes. For example, for the string *xiǎng qǐ lái*, if "*xiang"* is stressed, then it binds "*xiang qi"* together, meaning "recalled;" if *"qi"* is stressed, then it binds *"qi lai"* together, meaning, "to get up" (Chu et al., 2003). This "semantic" stress is more prominent than any rhythmic (sentential) stress that arises in Mandarin (Chu et al., 2003). Altogether, any system of stress that can be construed in Mandarin is too distinctly different from the polysyllable format within English for there to be relevant implications for positive transfer in the English learning process.

Transfer: Mandarin Perceptions

One primary difficulty that ELLs face in catching English stress patterns is transfer from

[3] "Sandhi" refers, cross-linguistically, to features which are transformed by how they are positioned in relation to other features. As another Mandarin example, another tone sandhi occurs when the third tone is transformed into the second when placed before another third tone (e.g. *nǐ gěi* [you give] is pronounced *ní gěi*).

their own suprasegmental repertoire. However, with an understanding of the structures that bridge English and Mandarin prosody, we can implement positive transfer into pedagogy. We have already examined the differences between the Mandarin and English prosodic rationales. Analyzing how Mandarin speakers process these differences can help determine how that cognition can be leveraged to promote pronunciation improvement in ELLs.

Perception

Perception analysis results can be difficult to construe, as salience is subjective to the listener and difficult to quantify. However, both linguistic and empirical analysis can demonstrate which factors of stress Mandarin listeners are more likely to receive.

Pitch

As pitch plays a different role in stress than in tone, its level of salience can be ambiguous and can vary between multiple listeners. Some research asserts that, for native English speakers, pitch is one of the least salient of the correlates (Keyworth, 2014; Gay, 1978). Even between fundamentally different prosodies, an ELL's skills in discerning their L1 prosody crosses over to their L2. Choi et al., (2017) discovered this in an analysis of ELLs whose L1 was Cantonese, another tonal language. They found that a speaker's perceptive skills of their own prosody (tonality in the case of Mandarin and Cantonese) were directly correlated with perceptive skills in their L2. They also posited that young learners, in fact, can develop their perception of the prosodies of both languages interdependently (Choi et al., 2017).

English loanwords within the Mandarin language can also display how English stress translates into the Mandarin tonal system. Glewwe (2015) examined which properties affect how an English syllable is adopted tonally into Mandarin. The analysis determined that lexical stress was the more common factor in assigning tone to these words (Glewwe, 2015). Stressed

syllables were most likely to be assigned the first tone, such unless they were in the final position, in which they were assigned falling tone (Glewwe, 2015). This is consistent with the pitch patterns of English stress as previously outlined; stressed syllables tend to carry the highest pitch and falling tone patterns are common expressions of finality in English (Fudge, 2016).

Therefore, just because tonal shifts are more frequent in Mandarin does not mean that they never occur in English. Aside from syllabic pitch raises, we also find intonational examples of pitch that resemble Mandarin tone contours. English declarative sentence structure tends to follow a falling tonal path, while interrogative sentence structure follows a rising path (Eady, 1982). A Mandarin speaker has, because of the tonality of their language, a deep awareness of the tonal repertoire that they can employ in English prosody. They must simply learn how to implement this tonal repertoire into their L2.

In the context of lexical stress, ESL instructors can focus on exaggerating pitch correlates in demonstrating or introducing the concept. By raising pitch or emphasizing the distinct falling sound of final stress, learners will have a familiar sound to imitate. However, the instructor can prevent negative transfer by making clear the integrational nature of stress as a pitch phenomenon within a word rather than one that pervades entire words. The presence of tonic/atonic disyllabic units in Mandarin can give students an understanding that these pitch contours do not belong in every syllable. By the time students grasp that the English lexicon is filled with multisyllabic words, the teacher will take that opportunity to make clear that some syllables receive this pitch raise, while others do not.

Intensity

According to Keyworth's (2014) analysis, intensity was the strongest cue for stress for Mandarin ELL listeners. Linguistically, the ambiguity over the role of stress in Mandarin makes

it unclear what standard prosodic role intensity plays in Mandarin, though volume is obviously a concept not bound to any one language. Defining intensity as increased vocal effort may sound nebulous. However, pointing to the raised volume of stress as an important aspect creates a point of understanding that students will find simple and easily translatable.

Duration and Vowel Reduction

Though Mandarin speakers have a pitch-based prosody, they are still able to process other stress correlates. Duration and concomitant vowel reduction are some of the most crucial stress correlates because of their obvious effect on phonemes. Lai (2008) used acoustic analysis to determine which stress correlates were most salient for Mandarin ELLs. He used recordings of the non-word "dada" to measure the perception strength of vowel quality, F0, and duration (Lai, 2008). The results demonstrated that beginners used duration as their primary way of assessing stress, while advanced speakers primarily relied on pitch (Lai, 2008). Vowel reduction tended to be the most reliable signal of stress for speakers of all levels (Lai, 2008).

Zhang and Francis (2010) assessed the perceptual weight of vowel quality by experimenting with the syllable "de-" of the noun/verb pair *de*sert/des*ert*. Using ambiguous stress, they would adjust either the vowel quality, pitch, duration, or intensity of "de-". Both English and Mandarin speakers were found to use vowel quality as their primary means of perceiving stress (Zhang & Francis, 2010). This aligns with research that describes segmental components as more salient than non-segmental even for tonal languages like Mandarin (Ye & Connine, 1999). Thus, despite the crucial role of pitch in Mandarin prosody, the difference between a long vowel such as [e] and a schwa [ə] will still be more readily recognizable than a pitch difference.

The Mandarin vowel inventory is quite different than English, with no tense-lax

distinctions and no vowel reduction. However, the foreign nature of the English vowel inventory (as exemplified in reduced vowels such as [ɛ] or [ɪ]) can contribute to the salience of the sounds (Zhang & Francis, 2010). Though this may seem like a burden on learners, the connection between prosody and vowel quality within English vowel reduction can make these syllables more salient. Through emphasizing the rhythmic nature of stress timing, empirical data shows that even beginning learners will be able to hear durational differences, especially with the scaffolding of the obvious vowel differences. The cumulative strength of pitch, duration, and vowel quality will work together to create a strong base for instructors wishing to introduce stress as a concept to their students.

Stress Patterns

In some studies, non-native English speakers have been found to be even better than native speakers at perceiving the significance of stress patterns, particularly in differentiating the trochaic/iambic dichotomy of English noun and verb patterns (Davis & Kelly, 1997; Yu & Andruski, 2011). Yu and Andruski (2011) found that Mandarin speakers were seen to have a bias towards comprehending iambic patterns first. Though Mandarin speakers obviously have no stress pattern system to pull from in their prosody, teachers can use the salient correlates of Mandarin syllables to enforce the stress placement of individual lexical items.

Production

ESL instructors must be aware of not only how their students are perceiving lexical stress, but how they are able to reproduce the sounds and patterns that they hear. “China English” refers to the speech patterns of English that appear in Mandarin-speaking English learners (Wu, 2019). The overall suprasegmental gap between English and Mandarin creates “accentedness” that is often perceived as stronger than same-level speakers of different L1s (Crowther et al.,

2014; Zhang et al., 2008). However, the same scaffolds that can be used to create positive transfer and facilitate good stress perception can help Mandarin ELLs become better with pronouncing stress as well.

Pitch

Keyworth (2014) found that Mandarin speakers tended to intensify pitch contrasts more than native speakers to produce lexical stress. This can be distracting or confusing for English listeners, especially if other correlates are ignored. Many speakers also show a tendency to assign a falling tone to all stressed syllables, which is, of course, not appropriate in all contexts in English (Zhang et al., 2008). However, others report monotone tendencies in reaction to the lack of tonality in English, which affects overall rhythm and obstructs comprehensibility (Wu 2019). Thus, the negative transfer of tonality seems to result in two output outcomes: The first, an "overcompensating" monotone in order to diminish tonality; the second, a "hypercorrective" overdone pitch contrast that can transpose stress with seemingly corresponding tones (first or fourth) (Wu, 2019; Keyworth, 2014).

If an instructor is making use of positive transfer of pitch in introducing stress, learners will not fall into the trap of understand English as a language where pitch is completely irrelevant. However, teachers should be careful in exaggerating pitch contrasts; these can be an effective way to draw attention to stressed syllables but should be emphasized in accordance with other factors. Instructors should also be wary of presenting stressed syllables as equivalent to the tones they can resemble, and rather trust in the emphasis of those pitch patterns to be salient to ELLs who will be accustomed to hearing them.

Intensity

Keyworth (2014) found that for Mandarin speakers, stress does not exhibit as strong a

contrast in intensity as English does. However, Wu's (2019) analysis demonstrated that the difference was not significant, and that Mandarin speakers are still capable of differentiating the intensity of stressed and unstressed syllables. Thus, the universal nature of "intensity" and "volume" as concepts makes them the correlates of stress with almost no negative transfer for instructors to avoid.

Vowel Reduction

While Zhang and Francis (2010) showed that Mandarin speakers can perceive vowel reduction, they also found that this proficiency is not always paralleled in production. The participants in the study were able to accurately perceive the minimal pairs [ɪ] and [ɛ] that discriminated the first syllable in the pair *de*sert/de*sert*, yet the same participants could not accurately produce those sounds (Zhang & Francis, 2010). In another study, Zhang et al., (2008) also observed that vowel reduction, even if it appears, is inconsistent. For stressed syllables, vowel duration often diminishes, with Mandarin speakers spending more time on consonant clusters, a phonological feature absent in Mandarin (Wu, 2019). Even once a speaker can comprehend the contrast of lexical stress, they may still have difficulty producing the stress they hear. Some positive transfer does emerge here, as the reduced vowel sound, or schwa, in English [ə], exists phonemically in Mandarin. Instructors must avoid pronouncing these syllables as stressed realizations to stay true to their [ə] form, and get students accustomed to its usage in English as a reduced vowel.

Stress Patterns

Stress patterns are important for creating the rhythms of speech necessary for comprehensibility. The complexity and rigidity of English stress patterns make it difficult for Mandarin speakers to process, especially with the caveats and exceptions that breach more

predictable patterns such as nouns' tendency towards penultimate stress. As mentioned before, suffix shifts add on another confusing system to comprehend (Fudge, 2016; Sadat-Tehrani, 2017). Field (2005) found that stress affects intelligibility more intensely when misplaced in a later syllable than when misplaced earlier in a word. English instructors can make use of the heightened awareness of existing stress patterns to point out words that disobey those patterns as unique. Metalinguistic information about which suffixes causes shifts (-al, -ity, etc.) and which do not (-ful, -ness, etc.) can also be useful as long as it is scaffolded as to not overwhelm the students.

Implications for the ESL Classroom

Fundamentals of Prosody Instruction

Teachers will struggle to make use of positive transfer in the classroom without some knowledge of SLA-supported effective practice. Ultimately, this research is not to provide the perfect activities to make Mandarin-speaking ELLs perfect stress communicators. However, SLA theory can provide insight into pedagogical practices that are more conducive to implementing positive transfer.

Implicit Instruction

Much of the discussions surrounding prosody instruction seek to reconcile CLT demands for implicit instruction with the supposedly fringe, explicit discipline of pronunciation instruction. The research of most second language acquisition experts agrees that stress, like all pronunciation, is best taught in integration with other aspects of the languages (Darcy, Ewert, & Lidster, 2012; Sadat-Tehrani, 2017). Implicit methods regard pronunciation as an important sub-skill within the broader skill of speaking. Teachers cultivate the learners' speaking skills by accompanying pronunciation with other vital sub-skills, like fluency and accuracy.

DeKeyser (1998) stated that pronunciation was "immune to all but the most intensive forms-focused treatments" (p. 43). Some argue that in the context of Mandarin, a language with no defined, lexically significant concept of stress, explicit explanation is ideal (Sadat-Tehrani, 2017). I acknowledge that in the context of the Mandarin prosodic system, some formal, explicit information on lexical stress may be necessary to offer students who are attempting to better grasp the concept (See Appendix: Stress Placement PPP). However, the implicit methods of CLT not only revived suprasegmental instruction into the broader ESL consciousness but created the classroom environment where teaching stress can thrive. Regardless of which activities a teacher uses, or how explicitly they describe rules surrounding stress, in order to help students take notice of positive transfer, it cannot be taught in a vacuum as a mere set of rules, but within broader context.

Focus on Form

"Focus on Form" is a popular philosophy of implicit instruction that expressly focuses on drawing attention to troublesome structures for ELLs to make them more salient. To promote overall communicative effectiveness, the instructor will "zoom in" on a specific problem, such as stress, that may be inhibiting that effectiveness (Isaacs, 2009). Saito and Saito (2017) propose that this attention-enhancing take place primarily before and after a main task. This provides for a broader context for stress, so that instructors can present it as a relevant part of communication, and not a fringe issue. For further information on Focus on Form methodology, see Appendix: Task-Based Language Teaching and Appendix: Auditory Priming.

Gestures can be useful tools in helping instructors emphasize positive transfer in acoustic correlates. Smotrova (2017) discusses the effects of coordinating "kinesic" stress (stretching a rubber band, clapping, flicking the hand, etc.) with actual linguistic stress. Experimentation

shows that students then create “catchments” out of these gestures by using them as a “mediational tool” (Smotrova, 2017, p. 75) for reiterating stress. When paired with exaggerated stress correlates, such as raised pitch or volume, these can help instructors reinforce these features as concepts already within their suprasegmental repertoire (Smotrova, 2017). Altogether, imitation is an effective format for encouraging learners to take notice of difficult patterns such as lexical stress (See Appendix: The Mirroring Project and Appendix: Jazz Chants).

Feedback

Encouraging and corrective feedback are vital components of SLA, and integral in enforcing our students’ confidence in the positive transfer that they can utilize in learning stress. Pennington (1989) writes of feedback as essential to properly teaching prosody. Any technique that instructors employ to teach stress must factor in feedback. Encouraging feedback can build learners’ confidence in the positive transfer and correct perceptions of stress. Corrective feedback, on the other hand, helps students avoid negative transfer and incorrect assumptions about stress and draws their attention towards the correct form (See Appendix B).

Technology Integration

Twenty-first century computer accessibility rushed new “listening” technology into the classroom. These programs can offer valuable support in helping students produce stress correctly, especially if they face accentedness even after mastering stress perception. Automatic Speech Recognition (ASR) programs have become a topic of interest in prosody-teaching, from specialized programs like *Praat* to mainstream programs such as *Siri* and *Google Assistant* (O’Brien et al., 2018). However, many of these programs are either too technical for practical classroom implementation, or too simple to have any algorithm that properly picks up on lexical

stress (O'Brien et al., 2018). A lack of sound databases with the resources to provide good feedback is also a problem when considering the usage of such devices (O'Brien et al., 2018).

Lee et al., (2017) address such feedback concerns by developing a software-based feedback system which predicts how they should adjust stress. Stress detection operated on 84% accuracy and feedback prediction operated on 96% accuracy (Lee et al., 2017). The program gives lexical stress feedback in the context of greater sentential stress patterns, and students' overall stress production improved (Lee et al., 2017). Nevertheless, this program used sound databases catering to Korean-speaking ELLs, which could address transfer issues irrelevant or unrelated to a primarily Mandarin-speaking classroom.

Social Implications

Teaching prosodic features such as stress involves not only reconciling between two linguistic system, but two cultural systems as well. Pennington (2019) in revisiting her "top-down" approach to pronunciation teaching, discusses the sociological and psychological aspects of the process. Because pronunciation starts as an all-encompassing process, she argues that it then becomes a role to play, expanding and shifting students' identities (Pennington, 2019). She describes that when learners have, through friendship or celebrity, a good rapport with the L2 speaker that they imitate, they feel comfortable entering that role. She also, considering technological advances in pronunciation training, emphasizes the need of face-to-face interaction in promoting this relational method of teaching (Pennington, 2019).

However, the deep social nature that goes into prosody instruction is dependent on a communicative, interaction-based classroom environment. For Mandarin-speaking ELLs, their East Asian background often makes this pedagogical environment seem just as foreign as the novel linguistic environment. Rhodes (2017) discusses how to navigate CLT around Confucian-

style pedagogy that most Mandarin-speaking students are accustomed to. Many students from this background may feel too shy to participate in the communicative activities that are vital to learning lexical stress. Being supportive and encouraging with feedback or even encouraging students to compare their performance with one another first can help ease this discomfort by putting the burden of "saving face" on yourself, rather than them. Altogether, remaining mindful of the student's concerns in the classroom will help instill within them that they can acquire lexical stress.

Synthesis

There is no lack of information, both pedagogical and linguistic, on the interaction between the English stress system and the Mandarin tonal system in the classroom. As future ESL teachers, we must not only be able to display how this linguistic knowledge can be well implemented in ESL pedagogy, but also provide good strategies for making better communicators out of our future students. Through a provided outlook that emphasizes positive transfer over negative, we can create a philosophy of teaching stress that involves three core considerations: pitch transference, vowel awareness, and communicative learning.

Pitch Transference

Demonstrating the shared suprasegmental features of English and Mandarin are key to presenting new prosodic concepts like lexical stress. As intensity relies on vocal strength or volume, it involves acoustic properties common across all languages, and is thus an easy correlate to emphasize. However, pitch and vowel reduction are key correlates that are typically seen as drastically different between the two languages and must receive special attention.

Instructors should integrate the raised pitch of stressed syllables as concepts that their Mandarin-speaking students will understanding. Some metalinguistic information regarding

pitch may be helpful to make clear to the students that the pitch raises that they are hearing are definite markers of stress. It will not be too overwhelming to describe stressed syllables as higher or remarking that the final syllable falls in pitch when stressed. To prevent negative transfer such as the conflation of stress and tone, instructors will continue to provide authentic input for the students that makes clear the variety of contours that emerge within the higher F0 of English stress.

Vowel Awareness

Keeping in mind research pointing to vowel reduction as the most salient stress correlate (Zhang & Francis, 2010; Lai, 2008), vowel reduction patterns should be the primary factor to aid students with the direct stress of discrete lexical items. As duration is key within this process, these two correlates can be categorized together. Teachers can use the presence of the schwa [ə] as a Mandarin phoneme as a bridge toward the English role of the schwa as a short, unstressed vowel. Because of segmental differences between the Mandarin and English vowel systems, supplemental instruction involving minimal pairs between tense and lax vowels can also be helpful in assisting this process. Through building students' awareness of English vowel phonemes, teachers can use the familiarity of the schwa [ə] as a point of contrast against the vowels that are unfamiliar to Mandarin speakers. This contrast will use a familiar vowel against the backdrop against stressed vowels and help create comprehensible stress maps of individual words. These contrasts will then reinforce the stress patterns that will begin to emerge for the students and help them recall words with odd stress patterns.

Communicative Learning

Teachers can find a varied, albeit limited, array of techniques and methods for teaching prosodic features. However, to select activities that can best direct students' attention to positive

transfer, teachers should ground their teaching in a communicative basis. Communicative methods involve learning *to use* a language rather than merely learning *about* a language. This mindset helps reinforce the idea that lexical stress is not an entirely alien concept for the learner to analyze with no context. An intelligent Mandarin-speaking student could have the academic, written vocabulary to comprehend the earlier pages of this thesis and learn thorough details about English stress. However, the student could still have serious issues perceiving or producing stress; they have only learned content and have not truly acquired the language.

Oftentimes, criticism towards CLT tackles its supposed negligence of targeting troublesome language structures. If this were the case, then it would be of no use in this form-focused context of teaching lexical stress. However, "focus on form" segments allow for these structures to receive the attention they need. Focus-on-Form CLT thus emerges as the best way to introduce stress to Mandarin ELLs, with both an emphasis on improving understanding on a target form as well as an approach that promotes language acquisition rather than content cramming.

Conclusion

The disconnect between Mandarin tonality and English stress creates a daunting environment for ESL teachers to teach stress. We have examined a proper understanding of both systems to not only battle this fear but deepen an understanding of the vital role prosody plays in communication. After examining the fundamentals of each prosodic system, pitch arises as a prominent feature in both systems. Analysis of perception transfer demonstrated how the pitch raises of English stress bridge the gap between the two systems, as well as how vowel reduction stands salient for native and non-native listeners alike. Production transfer patterns demonstrated the difficulties that Mandarin ELLs can have in mimicking duration and pitch patterns as well as

understanding the complexity of English stress placement. English teachers use a mix both typical perception strengths (often overlooked in favor of linguistic differences) and production weaknesses to find what to emphasize and pay attention to in their teaching. Upon this crucial information about both prosodic systems, we examined effective pedagogical frameworks to build upon linguistic understanding. Creating a classroom that enacts implicit instruction helps Mandarin conceptualize stress beyond explicit rule lists and notice stress patterns on their own.

Altogether, we have assessed the linguistic factors and principles that can help ESL teachers give their Mandarin-speaking students a communicative edge by better understanding lexical stress. Further research should explore how ESL teachers can better other important features in prosody such as sentential stress and intonation, as a holistic prosody instruction is what provides the skills that ELLs will need to advance their intelligibility. A more "common ground" mentality in future research towards other aspects in Mandarin transference (segmental phonetics, syntax, pragmatics, etc.) would be beneficial for ESL teachers to see their students through the lens of positive transfer.

Further experimentation should also address the effectiveness of various methodologies and activities in implementing positive transference awareness. As ESL teachers, we must continually test and research our methodologies to ensure that students are leaving the classroom equipped to use the language we are giving them. Ultimately, mindfulness of the linguistic, cultural, and social contexts of our students, through whatever theories or practices that entails, is the driving force behind improving ESL practice for our future students.

References

Choi, W., Tong, X., & Singh, L. (2017). From lexical tone to lexical stress: A cross-language mediation model for Cantonese children learning English as a second language. *Frontiers in psychology*, *8*, 492.

Chu, M., Wang, Y., & He, L. (2003). Labeling stress in continuous mandarin speech perceptually. In Proceedings of the 15th International Congress of Phonetic Sciences (pp. 2095-2098).

Crowther, D., Trofimovich, P., Saito, K., & Isaacs, T. (2015). Second language comprehensibility revisited: investigating the effects of learner background. *TESOL Quarterly*, *49* (4), 814-837.

Cutler, A. (1986). Forbear is a homophone: Lexical prosody does not constrain lexical access. *Language and speech*, *29* (3), 201-220.

Darcy, I., Ewert, D., & Lidster, R. (2012). Bringing pronunciation instruction back into the classroom: An ESL teachers' pronunciation "toolbox". Proceedings of the 3rd Pronunciation in Second Language Learning and Teaching Conference.

Davis, S. M., & Kelly, M. H. (1997). Knowledge of the English noun–verb stress difference by native and nonnative speakers. *Journal of Memory and Language*, *36*(3), 445-460.

DeKeyser, R. (1998). Beyond focus on form. Focus on form in classroom second language acquisition, 42-63.

Eady, S. J. (1982). Differences in the F0 patterns of speech: Tone language versus stress language. *Language and Speech*, *25*(1), 29-42.

Field, J. (2005). Intelligibility and the listener: The role of lexical stress. *TESOL Quarterly*, *39*(3), 399-423.

Fudge, E. C. (2016). *English word-stress*. Abingdon, Oxon: Routledge. doi:10.4324/9781315674810

Gay, T. (1978). Physiological and Acoustic Correlates of Perceived Stress. *Language and Speech*, *21*(4), 347–353. https://doi.org/10.1177/002383097802100409

Gilbert, J. B. (1984) *Clear speech: pronunciation and listening comprehension in American English* (1st edition). New York: Cambridge University Press.

Glewwe, E. (2015). Tonal assignment in English loanwords in Mandarin Chinese (Doctoral dissertation, UCLA).

Graham, C. (1978). *Jazz chants*. New York: Oxford University Press.

Isaacs, T. (2009). Integrating form and meaning in L2 pronunciation instruction. *TESL Canada Journal*, *27*(1) 1-12.

Jongman, A., Wang, Y., Moore, C. B., & Sereno, J. A. (2006). *Perception and production of Mandarin Chinese tones* (pp. 209-217).

Jung, Y., Kim, Y., & Murphy, J. (2017). The role of task repetition in learning word-stress patterns through auditory priming tasks. *Studies in Second Language Acquisition*, *39*(2), 319-346.

Keyworth, P. R. (2014). A cross-linguistic study of lexical stress shifts in level 1 [+ cyclic] derivations. In Proceedings of Meetings on Acoustics 167ASA (Vol. 21, No. 1, p. 060001). Acoustical Society of America.

Lai, Y. (2008). Acoustic realization and perception of English lexical stress by Mandarin learners (Doctoral dissertation, University of Kansas).

Lee, G. G., Lee, H. Y., Song, J., Kim, B., Kang, S., Lee, J., & Hwang, H. (2017). Automatic sentence stress feedback for non-native English learners. *Computer Speech & Language*,

41, 29-42.

Malins, J. G., & Joanisse, M. F. (2010). The roles of tonal and segmental information in Mandarin spoken word recognition: An eyetracking study. *Journal of Memory and Language*, *62*(4), 407-420.

McAndrews, M. (2019). Short periods of instruction improve learners' phonological categories for L2 suprasegmental features. *System*, *82*, 151-160. doi: 10.1016/j.system.2019.04.007

Murphy, J., & Baker, A. A. (2015). History of ESL pronunciation teaching. *The handbook of English pronunciation*, 36-65.

Nair, R., Krishnasamy, R., & De Mello, G. (2017). Rethinking the teaching of pronunciation in the ESL classroom. *The English Teacher*, *14*.

O'Brien, M. G., Derwing, T. M., Cucchiarini, C., Hardison, D. M., Mixdorff, H., Thomson, R. I., Strik, H., Levis, J. M., Munro, M. J., Foote, J. A., & Levis, G. M. (2018). Directions for the future of technology in pronunciation research and teaching. *Journal of Second Language Pronunciation*, *4*(2), 182-207.

Pennington, M.C. (1989) Teaching pronunciation from the top down. RELC Journal, *20*(1): 20–38.

Pennington, M.C. (2019). 'Top-Down' Pronunciation Teaching Revisited. *RELC Journal*, *50*(3), 371–385. https://doi.org/10.1177/0033688219892096

[pitch contours of mandarin tones]. (n.d.) http://web.mit.edu/jinzhang/www/pinyin/tones/index.html

Rhodes, C. (2017). Boosting Chinese ESL Students' Active Participation in Classrooms in the US: A Handbook for Teachers.

Sadat‐Tehrani, N. (2017). Teaching English stress: a case study. *TESOL Journal*, *8*(4), 943-968.

Saito, Y., & Saito, K. (2017). Differential effects of instruction on the development of second language comprehensibility, word stress, rhythm, and intonation: The case of inexperienced Japanese EFL learners. *Language Teaching Research*, *21*(5), 589-608.

Smotrova, T. (2017). Making pronunciation visible: Gesture in teaching pronunciation. *TESOL Quarterly*, 51(1), 59-89. doi:10.1002/tesq.276

Tarone, E., & Meyers, C. (2018). The Mirroring Project: Improving suprasegmentals and intelligibility in ESL presentations. In *Speaking in a second language* (pp. 197-223). John Benjamins.

Thiessen, E. D., & Saffran, J. R. (2003). When cues collide: Use of stress and statistical cues to word boundaries by 7- to 9-month-old infants. *Developmental Psychology*, *39*, 706–716.

Wu, Y. (2019). Review of Chinese English Learners' Prosodic Acquisition. *English Language Teaching*, *12*(8), 89-94.

Yang, B. (2015). *Perception and production of mandarin tones by native speakers and L2 learners* (2015th ed.). Heidelberg [Germany]: Springer. doi:10.1007/978-3-662-44645-4

Ye, Y., & Connine, C. M. (1999). Processing spoken Chinese: The role of tone information. *Language and Cognitive Processes*, *14*(5-6), 609-630.

Yu, V. Y., & Andruski, J. E. (2010). A cross-language study of perception of lexical stress in english. *Journal of Psycholinguistic Research*, *39*(4), 323-44. doi:http://dx.doi.org/10.1007/s10936-009-9142-2

Yu, V. Y., & Andruski, J. E. (2011). The effect of language experience on perception of stress typicality in English nouns and verbs. *The Mental Lexicon*, *6*(2), 275-301.

Zhang, Y., Nissen, S. L., & Francis, A. L. (2008). Acoustic characteristics of English lexical stress produced by native Mandarin speakers. *The Journal of the Acoustical Society of*

America, 123(6), 4498-4513.

Zhang, Y., & Francis, A. (2010). The weighting of vowel quality in native and non-native listeners' perception of English lexical stress. *Journal of Phonetics, 38*(2), 260-271.

Appendix A

The following appendix provides some specific, effective activities and methods for teaching stress.

Stress Placement: PPP (Present, Practice, Produce)

This method combines some elements of task-based communicative learning with teaching explicit stress rules (Sadat-Tehrani, 2017). The initial stage of his proposed model begins with an introduction of one or more of sixteen stress rules, followed by worksheets where students implement the rules taught. This stage is followed by a communicative portion where students incorporate the rule(s) into sentences that they share with the class. If a teacher desires a more implicit form of instruction, such an activity can occur in the post-task stage of a TBLT lesson.

Task-Based Language Teaching (TBLT)

This method involves three stages: a pre-task, task, and post-task (Saito & Saito, 2017). The pre-task introduces the target structure (lexical stress) through an activity that draws students' attention to the target form. The main task is a practical activity (any variety of real-world tasks, such as grocery shopping, interviewing for a job, etc.) assessed in terms of a non-linguistic outcome. This main task will however involve stress practice through the patterns of the vocabulary the students will need to use to meet the desired outcome. The post-task is an activity that reflects on the main task and allows students to analyze the specific stress patterns on their own.

Auditory Priming

The teacher provides students with a task-based activity (any variety of real-world tasks) embedded with a specific stress pattern. The task will consistently and frequently have the

teacher and students repeating this particular pattern, without the students yet knowing this is the target structure. The students then use that prior exposure to stress to implement these stress patterns in a response activity which can include some metalinguistic information (Jung, et. al, 2017).

The Mirroring Project

"The Mirroring Project" refers to a role-playing form of stress imitation. ELLs would mirror the speech and gestures of a native speaker (such as a celebrity or YouTuber) of their choice to practice prosody. The learners are supposed to take on the role of the speaker and perform their speech and even gestures dramatically, practicing not only lexical stress but a holistic array of prosodic features (Tarone & Meyers, 2011).

Gesture-Based Stress Teaching

Various gestures can be incorporated to draw students' attention to stressed syllables. Each of these gestures involve the teacher modeling the behavior for the students to repeat and imitate afterwards. The teacher can place a hand beneath the chin at each stressed syllable to emphasize the lowering of the jaw (Smotrova, 2017). Another example involves the use of the entire body, in which the teacher straightens the body and raises the head in order to emphasize a specific syllable, and maintains the body in a slumped position during unstressed (Smotrova, 2017). Such "whole body" gestures can be accompanied by widened eyes, raised eyebrows, or emphasized pitch. These gestures are designed to be intentional and not simply exaggerated forms of the gestures of standard speech (Smotrova, 2017).

Jazz Chants

Jazz Chants are rhythmic poems or chants meant for teaching prosodic patterns. Teachers can design specific Jazz Chants to target certain stress patterns as an attention-enhancing activity

(Graham, 1978). These can be incorporated with Smotrova's (2017) kinesthetic stress activities.

ASR Implementation

Teachers can utilize voice recording programs to integrate lexical stress into independent practice for students. Students can record either specific words or whole phrases and play them back to compare their production with the production of the teacher or a native speaker's recording. This provides a form of automated feedback for the student and gives them the opportunity to audibly record their progress.

Appendix B

This appendix lists examples of different forms of feedback that can be given to students who make errors in lexical stress.

Clarification Requests

Students may misplace stress so differently that it may sound incomprehensible. Clarification requests are useful in such situations. For example, if the student says, *"Obligatión"* the teacher can reply by saying, "Excuse me?" or "Can you repeat that?" Once the word is comprehensible, the teacher can use one of the following methods.

Elicitation

Elicitation provides hints to direct students toward the correct reply. These can employ patterns that the students are currently studying. For example, if the student says, "I am very *cóntent.*" the teacher can reply with, "If you are describing yourself, then it is an adjective, so you are very…"

Recast

A recast simply offers the correct form repeated to the student. This form is better when the teacher is sure that the student has uttered a simple mistake rather than an error of

understanding. For example, if the student says, “This is *hístoric”* the teacher can reply with, “Yes, this is *históric*.”

Repetition

Repetition repeats the error as a question. The teacher must simply make clear to the student that their response is being questioned as to not provide bad input. For example, if the student says, “Today is a *wondérful* day,” the teacher can respond with “A *wondérful* day? Are you sure?”

Explicit Correction

An explicit correction is best for when the teacher knows that the student is having trouble finding the correct pattern. For example, if a student is continually struggling with finding the stress in “*commonálity*” the teacher can respond by simply providing the student with the correct stressed syllable.