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“From the Sound, it Look Like He Said it from the Deep in his Heart”: How do English Learners Make Judgments of Pragma-Prosodic Meaning?

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Abstract

Prosody communicates pragmatic meaning far beyond that which is evident at the surface level of an utterance and can pose challenges to learners’ pragmatic comprehension. The current study investigated how second language (L2) English learners made decisions about speaker intent when communicated through prosody. Seventeen English L2 learners took a pragmatic listening test (adapted from Cohen, 2010) and made decisions about speaker intent across sixteen speech acts. Learners’ responses were compared with 11-12 English native speakers’ (NSs) responses. The learners provided open-ended rationales for how they made their decisions. Results demonstrated that for almost half the speech acts, all of which did not have a transparent pragmatic force, the learners relied primarily on the linguistic message and did not arrive at the same judgments as NSs did. In over half the cases when the learners did agree with NSs, the pragmatic force was transparent with the linguistic form. Overall, results demonstrate that pragma-prosodic meaning is challenging for learners. There is a need for teachers to provide pedagogical interventions to assist learners in interpreting a range of spoken cues, with a focus on prosodic properties, to decipher pragmatic meaning across a variety of speech acts.

Keywords: *Prosody; Pragmatic Intent; Pragmatic Comprehension; Pragmatic Strategies; Pragma-Prosodic Instruction*

In any given interaction involving second language (L2) learners, the “norms” of the target language must be considered when producing and comprehending communicative acts in that language (Eslami-Rasekh, 2005; Félix-Brasdefer, 2019; Sonnenburg-Winkler et al., 2020). Competence in this area of L2 pragmatics involves not only how learners *use* language (Bardovi-Harlig, 2013) but also how they *understand* and *comprehend* language (Cohen, 2010;

Culpeper et al., 2018). In other words, pragmatic productive skills involve what learners say and how, and pragmatic receptive skills involve the interpretation of what others say and how (Eslami & Mirzaei, 2012). Pragmatic comprehension is essential to co-constructed meaning between a speaker and a hearer. Successful comprehension is the result of interpreting the linguistic message along with the pragmatic force. However, *how* a speaker conveys a message is often much more telling than the actual message itself (Culpeper, 2011; Wharton, 2012). Therefore, L2 pragmatic comprehension involves the decoding of the linguistic form along with the physical speech properties themselves.

Prosody deals with just that—the properties of speech which are superimposed over the linguistic message and which carry their own unique pragmatic meaning suggestive of the speaker’s intent. In fact, more often than not, a speaker’s prosody conveys much more meaning than the actual words they say; therefore, pragmatic comprehension inherently involves prosodic comprehension (Kang & Kermad, 2019). While prosody is pragmatic in nature (Brazil, 1997; Knowles, 2016; Ladd, 1996; Levis, 2016; Pickering, 2018), the intersection of L2 pragma-prosodic research is much more limited when compared with other areas of syntax, semantics, and morphology. Furthermore, a bulk of the current L2 prosody research has focused on prosodic production, yet research lacks on exactly how learners comprehend and make decisions about pragmatic meaning when conveyed through prosody, especially across speech acts. It has been suggested that prosody is difficult to hear for language learners (Celce-Murcia et al., 2010), but questions still remain as to what aspects of speech (prosodic or other) learners do indeed attend to. The current study, nested in L2 pragma-prosodic comprehension research, seeks to respond to these gaps and, in doing so, provide pedagogical insight on how to integrate a focus on pragma-prosodic speech act instruction in the English language learning classroom.

Literature Review

Prosody

If language is considered to be a hierarchical structure that begins with individual sounds, the sounds are first placed into an allowable order according to the phonotactics of said language. These sounds then work together to create meaningful words, which are subsequently organized structurally according to the syntax of a given language. At the time of a spoken utterance, prosody gives life to these words as it is superimposed onto these embedded linguistic layers. Prosody, often interchangeable with the term “suprasegmentals,” refers to the properties of speech that are spread over the building blocks of language. Prosody collectively refers to the use of a speaker’s vocal resources, including pitch, loudness, tempo, and voice quality, to characterize an entire utterance all the way down to a single syllable (Culpeper, 2011; Wichmann & Blakemore, 2006). In the absence of prosody, or the “human element” (Ward, 2019, p. 1) of language, speech would simply be strings of computational or mechanical turn-taking. The most studied prosodic property is intonation, often the most crucial in indicating the force of an utterance (Knowles, 2016; Wichmann & Blakemore, 2006).

Multi-Functioning Prosody

A speaker can exploit the prosody of English to convey several functions (Chun, 2002; Levis & Wichmann, 2015; Pickering, 2018). Attitudes and emotions have often invariably been linked to prosody, namely intonation, under the “attitudinal” umbrella. Prosody has been associated with irony, sarcasm, politeness, impoliteness, sincerity, nervousness, enthusiasm,

excitement, and so on. However, this association is problematic and unreliable for several reasons (Levis, 1999; Levis & Wichmann 2015; Wichmann, 2000): attitude and emotion are actually not synonymous; emotion is not easily identifiable and consistently matched to effects of the voice; there is a lack of agreement on attitudinal effects even within a group of native speakers (NSs), and perceptions of attitude and emotion are language-specific.

Grammatical functions of prosody are quite common in English as a Second Language (ESL) textbooks and have associated tone unit boundaries and intonation with structural syntax and punctuation, i.e., tone units with phrasal boundaries (commas, periods, etc.) or intonation patterns with punctuation (rising pitch for yes/no questions or falling pitch for statements) (Chun, 2002; Levis & Wichmann, 2015; Pickering, 2018). However, any particular utterance, regardless of its grammatical structure, can be spoken with any intonational pattern (Levis, 2016). Set grammatical patterns do not hold across varying speaker intentions and real-time interactive contexts. Therefore, matching intonation with both grammatical and attitudinal functions is flawed due to the lack of consistency and predictability of these associations (Pickering, 2018). Rather than beginning with associating a particular tone with grammatical form or speaker affect, the tone instead can serve as the starting point to encode the speaker's intention within a speaker-hearer context. Said differently in Romero-Trillo's (2012) words, a pragma-prosodic analysis of language "intends to identify the intentions with which utterances are pronounced and how they may help clarify the meaning behind some grammatical structures that do not render their transparent pragmatic force on the basis of their construction" (p. 2).

David Brazil's (1997) framework of intonation moves away from attitudinal or grammatical descriptions of prosody and focuses instead on its pragmatic nature within a communicative context. Brazil's (1997) systems of tone units, prominence, intonation, and pitch height are used to describe the meaning of prosody within a given speaker-hearer interaction (Pickering, 2018). Prominence, marked by increased pitch, length, and volume, is used meaningfully by a speaker to emphasize information within a tone unit (Brazil, 1997; Kang & Kermad, 2019; Pickering, 2018). Intonation functions within the context of the speaker-hearer interaction; this context considers what the hearer knows at a particular moment in the interaction. A proclaiming tone (fall or rise-fall) indicates that a speaker is asserting new information which expands the shared world between the speaker and the hearer, whereas a referring tone (rise of fall-rise) indicates that the speaker is discussing something already in play in the conversation, building on the hearer's knowledge, or making connections to prior established information (Pickering, 2018). A level tone has other pragmatic functions, such as singalling routine-like discourse, a lack of opinion, a word search, a desire to hold the floor, or a moment of temporary linguistic coding (Brazil, 1997; Pickering, 2018).

Brazil's (1997) framework illustrates that at the time of a given utterance, a speaker makes choices—choices to make a word prominent or not, choices to use one intonation pattern over another, choices to use a particular pitch height. Each prosodic choice has a function, and each function carries pragmatic meaning. When a speaker chooses one option over another, they are communicating something differently (Brazil, 1997; Kang & Kermad, 2019; Levis, 2016; Pickering, 2018; Wharton, 2012). Therefore, within the context of interaction between a speaker and a hearer, a hearer has to be attuned to all of these choices and the communicative consequences that they bring to the interaction. For L2 learners, this means that they should be aware that prosodic choices signal different speaker intentions. However, little research has

documented how learners detect these choices and interpret their underlying pragmatic functions.

Prosody and Speech Acts

Speech acts, or the use of language to carry out social functions, are the most common focus of L2 pragmatics instruction and assessment (Eslami & Mirzaei, 2012). General pragma-prosodic patterns have been documented across different studies of speech acts. Aijmer (1996) found the intonation of apologies to vary based on the gravity of the offense; that is, more routine-like apologies (e.g., “sorry”) are spoken with rising or fall-rising tones. On the other hand, research has shown that more remorseful apologies or condolences tend to have falling tones (Knowles, 2016). Similar patterns have emerged with respect to gratitude: “thank you” spoken with a falling tone is perceived to express sincere gratitude than when spoken with a rising tone which is perceived to be more routine-like or casual (Aijmer, 1996; Knowles, 2016; Wells, 2006; Wichmann, 2015).

When expressing empathy in nurse-patient interactions, Staples (2015) found that native English speakers used more falling tones, but nonnative speaking nurses used more level tones which can sound more insincere. General patterns of level tones have often been used for routine phrases or asides (Cheng et al., 2008; Pickering, 1999; Wennerstrom, 1997; Wennerstrom & Siegel, 2003). For example, teacher directives or rote classroom explanations (e.g., repeating formulas or definitions) are usually accompanied by level tones because the teacher is focusing on the routine functioning of the class (Brazil, 1997).

The prosodic patterns of directives, such as yes/no and wh- questions, are much more salient than other speech acts, mostly because of their frequent occurrence in ESL textbooks (Pickering, 2018). Pedagogical strategies for teaching yes/no and wh-questions have been to ask the former with a rising tone and the latter with a falling tone. While there are no exclusive paired matchings between these speech acts and intonation patterns, Brazil (1997) notes that the frequent co-occurrence of rising tones with yes/no questions is due to their nature which often projects an assumption into the shared world between the speaker and the hearer. And, while wh-questions can be uttered with any tone choice, their nature of seeking information that is not yet at play in the conversation is often accompanied by falling tones.

Learners’ Comprehension of Pragma-Prosodic Meaning

Comprehension of pragmatic meaning goes far behind understanding the literal linguistic message, and in order for learners to engage appropriately in interaction, they need to be aware of the ways in which prosody contributes to the illocutionary force of an utterance. Some studies have included a focus on prosody when looking at learner comprehension of pragmatic meaning. For example, while not taking an instrumental investigation of prosody, Taguchi et al. (2016) explored the way in which L2 Spanish learners used auditory cues (vocal qualities such as intonation, stress, pausing, and speech rate) to infer ironic meaning on a multimedia listening test. They found that both high- and low- scoring groups made use of auditory cues, although to a lesser extent than logical (i.e., deductive) reasoning. Similarly, Shively et al. (2008) considered tone in how L2 Spanish learners made decisions about irony. The learners were asked to assess tone by checking all that applied (e.g., sincere, sarcastic/ironic, friendly, etc.). While the learners did pick up on different tones, Shively et al. (2008) found that this question was not methodologically consistent, as participants understood irony, but chose different tones to accompany the response. This inconsistency illustrates Bryant and Fox Tree’s

(2005) finding that irony is a dynamic involvement of many interactional features, and while particular vocal characteristics may accompany irony, there is not a set “ironic tone of voice” (p. 272) that maintains prosodic consistency across ironic utterances.

For a number of reasons, interpreting the pragmatic function of prosody is challenging for learners: 1) even NSs of English are unable to verbalize or agree on the conventions of how prosody is used (Levis, 1999; Pickering, 2018); 2) English learners do not have native-like intuitions when it comes to prosody (Levis, 1999); 3) learners often cannot hear prosodic cues associated with speaker intent (Celce-Murcia et al., 2010); and 4) pronunciation has received much less of a focus pedagogically speaking when compared to other skills (i.e., grammar, word-building, writing, etc.), although it is becoming increasingly more recognized. The combination of non-target-like pragmatic behavior can result in communication breakdown (Eslami-Rasekh, 2005) and “performance insecurity” (Romero-Trillo, 2012, p. 5). There is, therefore, a great need for teachers to bring focus to the properties of speech that are involved in altering pragmatic meaning. Benefits of meta-pragmatic instruction have already been noted in the research with respect to speech act comprehension (Derakhshan & Arabmofrad, 2018; Derakhshan & Eslami, 2015). Combining meta-pragmatic instruction with prosodic training can provide classroom opportunities to engage in authentic speech act situations which carry high demands for successful pragmatic competence.

The Current Study

While research has documented the many functions of prosody in conveying a speaker’s intent across speech acts, what is much less understood is whether English learners are able to interpret these salient uses of prosody, i.e., whether they comprehend the pragma-prosodic meaning conveyed when the pragmatic force of the utterance is not transparent with the linguistic form. Much L2 prosody research has focused on the actual speech production of L2 learners which has advanced quite a bit. However, what is less understood is what is involved in learners’ prosodic comprehension—a skill which is essential for L2 English pragmatic success. This study adds to the literature by not only focusing on pragma-prosodic comprehension, but also on providing insight into the actual strategies learners use when it comes time to make a decision about a speaker’s intent. Simply asking whether or not learners arrive at the same conclusions as native speakers is not enough; it is important to understand the means to the end. While research documents the difficulties in hearing prosodic meaning (Celce-Murcia et al., 2010), knowing what lies below the surface of these difficulties can inform pragma-prosodic pedagogy in the English language learning classroom. Therefore, the current study responds to the following research questions:

1. To what extent do English learners agree with native English speakers on pragma-prosodic meaning across speech acts?
2. What strategies do English learners use to make decisions about pragmatic meaning when conveyed through prosody?

Methodology

Participants

Seventeen English language learners (12 males, four females, one declined to state; $M = 20.65$ years; $SD = 2.34$) were recruited from an Intensive English Program (IEP) at a four-year university in the United States. Of the participants, 13 were NSs of Arabic, three were NSs of

Chinese, and one was a NS of Korean. The 17 participants were enrolled in Levels 4 and 5 at this IEP. The students were placed into the different levels (6 = highest; 1 = lowest) after the results of an in-house placement test which mimics that of the TOEFL iBT test (the total score is 120 points, lending 30 points to each sub-skill of reading, writing, listening, and speaking). Level 4 corresponds with scores of 45-56 on the IEP test or the TOEFL iBT test, and Level 5 corresponds with scores between 57-69 points on the IEP test or the TOEFL iBT test. For a baseline comparison group, 11-12 native speakers of English also participated in the study.

Materials

This study made use of two primary instruments: a pragmatic listening comprehension test (adapted from Cohen, 2010) and a background questionnaire. After piloting, the final 16-item pragmatic listening test (see Appendix A) assessed learner comprehension of speaker intent across speech acts. The speech acts were shortened dialogic interactions obtained from YouTube. The interactions came from TV series, movies, talk shows, or other videos and were shortened to only assess the turns associated with the speech act of focus, thus ranging from 2 seconds to approximately 16 seconds. The assessed turns could have come from any speaker part within the speech act.

Before the items were included on the pragmatic listening test, they were first piloted with 11-12 English NSs to ensure majority decisions about speaker intent. Items that did not elicit a majority agreement from NSs were not included on the test. The final test instrument was therefore made up of 16 items, including turns from two invitations, two compliments, two apologies, one assertion, and nine yes/no questions. A larger number of yes/no questions were included due to their saliency in ESL textbooks (Celce-Murcia et al., 2010; Pickering, 2018).

Eleven items on the test contained utterances in which speaker intent was conveyed through prosody, and five items contained utterances in which speaker intent was transparent with the linguistic form. NSs' responses confirmed whether pragmatic meaning aligned with the linguistic form or whether it was implied through prosody. That is, when NSs agreed to a majority that the speakers' intent was different from that which was conveyed through the linguistic form, it was understood that prosody was the underlying factor that conveyed this alternative meaning. For example, NSs agreed unanimously that when House apologized to Lisa and said, "*I was wrong. I'm terribly, terribly sorry*" that it was unlikely that House was sorry.

The test instructions contained the names of the speakers in the video, as well as a short description of the context of the conversation (with no mention of the source of the video). Adapted from Cohen (2010), the participants were instructed to choose one of three answers for each question related to speaker intent: a) likely, b) unlikely, or c) I don't know. The choice "I don't know" was only advised in cases where a decision could absolutely not be made. For all options, a rationale was required. In the rationale, the participants were asked to explain how they came to their conclusion of speaker intent.

The background questionnaire was used to collect biographical data (e.g., age, gender, first language, etc.) from the participants.

Procedures for Data Collection

Data were collected in the learners' actual classrooms at the IEP. The pragmatic listening comprehension test was administered first. For each item on the pragmatic listening test, the

researcher played the audio over the sound system two times. No visual content was presented to the learners in efforts to ensure that decisions were made based solely on the speech stimuli. Following the listening test, the participants completed the background questionnaire.

Procedures for Data Analysis

Research question 1. Percentages of the test data were calculated in response to the first research question regarding the extent to which English learners agreed with native English speakers on pragma-prosodic meaning across speech acts. For each assessment item, the NS majority (based on responses from 11-12 NSs) was calculated as a (rounded) percentage. Then, to quantify the learners' responses to the assessment items, the number of those who answered "Likely," "Unlikely," or "I don't know" were calculated and converted to a (rounded) percentage. These were compared with the NS majority responses to determine the extent to which NNSs agreed with NSs.

Research question 2. Grounded Theory (Mackey & Gass, 2013) guided the thematic analysis of the open-ended rationales in response to the second research question regarding the strategies English learners used to make decisions about pragmatic meaning when conveyed through prosody. Grounded Theory is an inductive, corpus-driven approach in which the data guide the analyses. Based on the frequent and recurring themes in the qualitative data, codes were established between the researcher and two analysts to categorize the way learners rationalized their decisions of pragmatic intent. The codes were established from the emerging themes in several cycles as the researcher met with the analysts and discussed and revised the themes as they became apparent from the data. A coding protocol was established to increase the consistency and reliability of the thematic coding. Two trained analysts manually coded 20% of the data using the coding protocol. The percentage of agreement was calculated and was 80% or higher between the two analysts.

In the end, eight codes were established. All codes and illustrative examples are provided in Table 1 below. The first five codes (1-5) provided actual insight into the strategies learners used to comprehend pragmatic meaning, and the last three codes (6-8) were used to categorize other comprehension-related processes.

"Linguistic Message" referred to decisions made about speaker intent based on the literal verbal language that was used. In these cases, learners simply repeated the exact words they heard from the sound file (*example 1*); other times, they simply paraphrased their understanding of the literal linguistic content (*example 2*). "Prosody" referred to decisions made based on suprasegmental properties such as intonation, pitch, word stress, sentence prominence, volume, etc. Sometimes the learners used the appropriate vocabulary to talk about prosody (words like "tone," "pitch," "loudly,") (*example 3*), but other times, they used non-technical descriptors such as "high sound," or "voice straight," and even at other times, non-words which clearly referred to prosody (such as "lowedly" in *example 4*). "Fluency" referred to decisions made based on temporal properties related to speech rate, silent pauses, filled pauses, etc. Like with the Prosody code, sometimes the learners used the technical language (*example 5*); at other times, they used their own wording such as "he took a deep breath," "because he stop first," "because she thinks first," or "she waited 5 secont" (*example 6*).

When the learners made decisions based on the speaker's perceived emotions or attitudes, these were coded as "Attitudinal." At times, the learners used adjectives to describe how the speaker

sounded, such as “sarcastic,” “angry” “shy,” “shocked,” “boring,” or “exciting” (*example 7*). Sometimes they described the speaker’s emotion/attitude in their own way with phrases like “He is really sorry from the sound it look like he said it from the deep in his heart” (*example 8*) to describe sincerity, or “He sounds like a little grudgingly,” to describe hesitancy or insincerity. “Inference,” was used to describe the decision-making processes when the learners extrapolated a general conclusion based on the situation/response or the overall sound. For example, they may have tried to explain the motive of the speaker: “Maybe because he wants to go out, and don't want to stay alone” (*example 9*), or “He wants her to stop punish him, so he did not mean it.” In other cases, the learners would make an inference generalizing the overall sound of the speech file, such as in “I know that from her sound” (*example 10*), “He sounds he has a strong idea for that,” or “it sounded like he was hiding a lot of problems and just didnt want her to worry.”

Table 1. Qualitative Codes of Learners’ Rationales.

Code	Examples of Learner Rationales* *Examples are written exactly as participants wrote them
1. Linguistic Message <ul style="list-style-type: none"> Participant reproduces same words from the sound file to make decision Participant focuses on literal meaning 	(1) <i>Because he said "I was wrong and I'm sorry" (IT#5)</i> (2) <i>Because he said he'd love to do that (IT#1)</i>
2. Prosody <ul style="list-style-type: none"> Participant speaks of suprasegmental properties (e.g., intonation, pitch, word stress, sentence prominence, volume) 	(3) <i>He voice did not change, I mean it has the same tone (IT#7)</i> (4) <i>Because his voice was lowedly and sad or shocked (IT#4)</i>
3. Fluency <ul style="list-style-type: none"> Participant speaks of temporal fluency properties (e.g., speech rate, pausing, filled pauses, hesitations, false starts) 	(5) <i>Beccuse she talks qucikley (IT#10)</i> (6) <i>If she don't leave him she will say it fast but she waited 5 secont (IT#8)</i>
4. Attitudinal <ul style="list-style-type: none"> Participant mentions some aspect of speaker emotion/attitude 	(7) <i>Because from when I hear her sound she looks boring, or she did not exciting (IT#15)</i> (8) <i>He is really sorry from the sound it look like he said it from the deep in his heart (IT#5)</i>
5. Inference <ul style="list-style-type: none"> Participant makes decision based on inference about situation/speaker’s response Participant makes decision based on inference about the overall sound 	(9) <i>Maybe because he wants to go out, and don't want to stay alone (IT#1)</i> (10) <i>I know that from her sound (IT#2)</i>
6. Comprehension <ul style="list-style-type: none"> Participant could not gather enough info to make response Participant could not understand the speaker 	(11) <i>he said he was sorry but I dont know for what (IT#6)</i> (12) <i>I don't understand what he said (IT#15)</i>
7. Other <ul style="list-style-type: none"> It is unclear what the participant means Participant uses inapplicable vocabulary which makes the meaning of their statement ambiguous 	(13) <i>I think this voice is clean (IT#4)</i> (14) <i>they look strange to each other (IT#7)</i>
8. No Response <ul style="list-style-type: none"> Participant gives no rationale 	

Note: IT = assessment item from listening comprehension test

Codes 6-8 in Table 1 above were used to categorizes issues related to comprehension. For example, “Comprehension” (*examples 11-12*) was only used twice in all of the data and referred

to when the learners could not gather enough information to make a decision or could not understand the speech file. “Other” was used when the analysts could not make concrete sense of the learners’ rationales (*examples 13-14*). Finally, “No Response” was used when no rationale was provided at all.

In some cases, a learner’s response could receive more than one code; that is, sometimes a learner’s rationale relied on more than one process explicated above to arrive at a conclusion. For example, the response, “Because he said yes and his pitch ge high a little bit” was coded as both Linguistic Message and Prosody because both of these cues were used to make a decision (“because he said yes” for Linguistic Message” and “his pitch ge high a little bit” for Prosody). In these cases, these codes were counted separately for that item.

Once all of the rationales were coded, each different type of code was tallied separately for each assessment item. To normalize the results based on the number of possible codes per assessment item (this varied due to the possibility of one assessment item possibly receiving more than one code), raw counts of each different type of code were converted to percentages by dividing the total number of occurrences of that code by the total number of possible codes per assessment item.

Results

Agreement between English Learners and Native English Speakers on Pragma-Prosodic Meaning across Speech Acts

The first research question explored the extent to which English learners agreed with NSs on speaker intent across sixteen speech acts. For seven of the sixteen assessment items (#1, #5, #6, #9, #11, #12, #13 in Table 2 below), or 44% of all items, there was a lack of agreement between English learners and NSs. In *all* of the cases of disagreement, the linguistic message *did not align* with the pragmatic meaning; i.e., it was conveyed through prosody. In the nine cases (#2, #3, #4, #7, #8, #10, #14, #15, #16 in Table 2 below) when the learners *did* agree with NSs about the speakers’ pragmatic intent, over half (five) were cases when the pragmatic force was transparent with the linguistic form. In the remaining four cases in which the learners agreed with NSs, pragmatic meaning was conveyed through prosody.

Table 2 presents the results of this research question. The first column of Table 2 provides the assessment item to which the learners responded. The second column indicates whether the pragmatic meaning aligned with the linguistic message for that item or whether it was conveyed indirectly through prosody. The third column provides the NS response and percentage of agreement among NSs for that particular item. The last column presents the NNS majorities for each assessment item both as the raw total and as a percentage of agreement.

Strategy Use for Decision-Making Processes of Pragma-Prosodic Meaning

In response to the second research question regarding how NNSs used strategies to decipher speaker intent across speech acts, in the majority of cases of disagreement with NSs, the NNSs relied primarily on the linguistic message to make their decisions. Inferencing was the next most commonly used strategy, although it was tied once with the linguistic message and once with attitudinal functions. Only once did attitudinal functions receive a majority response, and at the same time, it was tied with inferencing. On the other hand, when the NNSs did agree with NSs

on pragmatic intent, they relied equally on the linguistic message and attitudinal functions, and only minimally on their own inferences, which only led as a majority for two items.

Table 3 presents the tallies of the qualitative codes obtained from the learners' rationales for all assessment items which *disagreed* with NSs. Table 4 presents the rationale code tallies for all assessment items which *agreed* with NSs. Each test item is listed under the "assessment item" column, and the columns to the right of the assessment item present information about agreement with NSs, the pragmatic transparency, and the number of occurrences of each rationale. The rationale with the highest occurrence is accompanied by an asterisk (*). For three assessment items (i.e., #6, #7, and #11), two rationales had equally the same number of highest occurrences.

Table 2. NS and NNS Agreement of Pragmatic Meaning across Speech Acts.

Assessment Item	Pragmatic Meaning	NS Majority	NNS Response
1. Jules asks Seth if he would like to go buy cover-up (makeup) with her. From the sound of Seth's response, is it likely that Seth wants to go with Jules to buy makeup? (invitation)	Prosodic	Unlikely (82%) ¹	Likely: N = 16 (94%) Unlikely: N = 1 (6%) I don't know: N = 0 (0%)
2. Owen asks Christina to go on a date. From the sound of Christina's response, is it likely that Christina is apologizing that she cannot go on a date with Owen? (invitation)	Prosodic	Unlikely (91%) ¹	Likely: N = 4 (24%) Unlikely: N = 11 (65%) I don't know: N = (12%)
3. Ellen compliments Michael. From the sound of Michael's response, is it likely that Michael tries to be cool? (compliment)	Literal	Likely (100%) ¹	Likely: N = 13 (76%) Unlikely: N = 3 (18%) I don't know: N = 1 (6%)
4. A man gives another man a compliment. From the sound of the second man's response, is it likely that he is happy to hear the compliment? (compliment)	Prosodic	Unlikely (73%) ¹	Likely: N = 4 (24%) Unlikely: N = 13 (76%) I don't know: N = 0
5. House and Lisa have a conversation. From the sound of House's response, is it likely that House is sorry? (apology)	Prosodic	Unlikely (100%) ¹	Likely: N = 10 (59%) Unlikely: N = 6 (35%) I don't know: N = 1 (6%)
6. Amy asks Sheldon to apologize. From the sound of Sheldon's response, is it likely that Sheldon is sorry? (apology)	Prosodic	Unlikely (100%) ¹	Likely: N = 9 (53%) Unlikely: N = 6 (35%) I don't know: N = 2 (12%)
7. Marshall tells Robin that Ted is doing okay. From the sound of Robin's response, is it likely that Robin is happy with the news? (assertion)	Prosodic	Unlikely (100%) ¹	Likely: N = 3 (18%) Unlikely: N = 9 (53%) I don't know: N = 5 (29%)
8. Ted asks Robin if she really loves him. From the sound of Robin's response, is it likely that Robin loves Ted? (yes/no)	Literal	Unlikely (73%) ¹	Likely: N = 5 (29%) Unlikely: N = 12 (71%) I don't know: N = 0 (0%)
9. Fousey asks a stranger on the street if she finds him attractive. From the sound of the girl's response, is it likely that she finds Fousey attractive? (yes/no)	Prosodic	Unlikely (73%) ¹	Likely: N = 7 (41%) Unlikely: N = 6 (35%) I don't know: N = 4 (24%)
10. Jacob asks Hannah if she thinks he is attractive. From the sound of Hannah's response, is it likely that she thinks Jacob is attractive? (yes/no)	Literal	Unlikely (58%) ²	Likely: N = 7 (41%) Unlikely: N = 8 (47%) I don't know: N = 2 (12%)
11. Monica asks Chandler if he is okay. From the sound of Chandler's response, is it likely that he "is going to be fine"? (yes/no)	Prosodic	Unlikely (73%) ¹	Likely: N = 10 (59%) Unlikely: N = 5 (29%) I don't know: N = 2 (12%)
12. Helen wants to know if Annie is sick. From the sound of Annie's response, is it likely that Annie is hungry? (yes/no)	Prosodic	Unlikely (82%) ¹	Likely: N = 12 (71%) Unlikely: N = 4 (24%) I don't know: N = 1 (6%)
13. Robin asks Ted about a deal. From the sound of Ted's response, is it likely that Ted and Robin still have their deal? (yes/no)	Prosodic	Unlikely (82%) ¹	Likely: N = 9 (53%) Unlikely: N = 5 (29%) I don't know: N = 3 (18%)
14. Rachel asks if anyone knows what an "apothecary" is. From the sound of Chandler's response, is it likely that he knows the definition of "apothecary"? (yes/no)	Literal	Likely (82%) ¹	Likely: N = 13 (76%) Unlikely: N = 1 (6%) I don't know: N = 3 (18%)
15. Jerry tells Grace a story. From the sound of Grace's response, is it likely that Jerry's story has surprised her? (yes/no)	Prosodic	Unlikely (91%) ¹	Likely: N = 6 (35%) Unlikely: N = 11 (65%) I don't know: N = 0 (0%)
16. Ellen asks Will if he has ever held a mouse. From the sound of Will's response, is it likely that he has held a mouse? (yes/no)	Literal	Unlikely (75%) ²	Likely: N = 4 (24%) Unlikely: N = 13 (76%) I don't know: N = 0 (0%)

Note: percentages rounded to the nearest hundredth; ¹based on 11 NS responses; ²based on 12 NS responses

Table 3. Learners' Rationales of Pragmatic Intent: Disagreement with NSs.

Assessment Item	Agreement with NSs	Pragmatic Meaning	Code Tallies							
			Lx Msg	Pros	Flu	Att	Inf	Comp	Other	N/R
1. Jules asks Seth if he would like to go buy cover-up (makeup) with her. From the sound of Seth's response, is it likely that Seth wants to go with Jules to buy makeup?	No	Pros	11 (61%)*	2 (11%)	0 (0%)	2 (11%)	1 (6%)	0 (0%)	2 (11%)	0 (0%)
5. House and Lisa have a conversation. From the sound of House's response, is it likely that House is sorry?	No	Pros	8* (44%)	0 (0%)	0 (0%)	5 (28%)	2 (11%)	0 (0%)	3 (17%)	0 (0%)
6. Amy asks Sheldon to apologize. From the sound of Sheldon's response, is it likely that Sheldon is sorry?	No	Pros	5* (28%)	1 (6%)	2 (11%)	1 (6%)	5* (28%)	1 (6%)	2 (11%)	1 (6%)
9. Fousey asks a stranger on the street if she finds him attractive. From the sound of the girl's response, is it likely that she finds Fousey attractive?	No	Pros	9* (47%)	0 (0%)	1 (5%)	3 (16%)	5 (26%)	0 (0%)	0 (0%)	1 (5%)
11. Monica asks Chandler if he is okay. From the sound of Chandler's response, is it likely that he "is going to be fine"?	No	Pros	3 (18%)	1 (6%)	1 (6%)	4* (24%)	4* (24%)	0 (0%)	3 (18%)	1 (6%)
12. Helen wants to know if Annie is sick. From the sound of Annie's response, is it likely that Annie is hungry?	No	Pros	11* (61%)	1 (6%)	0 (0%)	0 (0%)	3 (17%)	0 (0%)	1 (6%)	2 (11%)
13. Robin asks Ted about a deal. From the sound of Ted's response, is it likely that Ted and Robin still have their deal?	No	Pros	5 (28%)	0 (0%)	2 (11%)	1 (6%)	6* (33%)	0 (0%)	1 (6%)	3 (17%)

Note: * signifies majority response; percentages rounded to the nearest hundredth; Lx Msg = Linguistic Message; Pros = Prosody; Flu = Fluency; Att = Attitudinal; Inf = Inference; Comp = Comprehension; N/R = No Response

Table 4. Learners' Rationales of Pragmatic Intent: Agreement with NSs.

Assessment Item	Agree Prag- -ment with NSs	Prag- matic Mean -ing	Code Tallies							
			Lx Msg	Pros	Flu	Att	Inf	Comp	Other	N/R
2. Owen asks Christina to go on a date. From the sound of Christina's response, is it likely that Christina is apologizing that she cannot go on a date with Owen?	Y	Pros	5 (28%)	0 (0%)	0 (0%)	8 (44%)*	4 (22%)	0 (0%)	1 (6%)	0 (0%)
3. Ellen compliments Michael. From the sound of Michael's response, is it likely that Michael tries to be cool?	Y	Lit	9 (53%)*	0 (0%)	0 (0%)	2 (12%)	2 (12%)	0 (0%)	2 (12%)	2 (12%)
4. A man gives another man a compliment. From the sound of the second man's response, is it likely that he is happy to hear the compliment?	Y	Pros	4 (21%)	4 (21%)	0 (0%)	5* (26%)	3 (16%)	0 (0%)	3 (16%)	0 (0%)
7. Marshall tells Robin that Ted is doing okay. From the sound of Robin's response, is it likely that Robin is happy with the news?	Y	Pros	4* (24%)	2 (12%)	2 (12%)	4* (24%)	2 (12%)	0 (0%)	1 (6%)	2 (12%)
8. Ted asks Robin if she really loves him. From the sound of Robin's response, is it likely that Robin loves Ted?	Y	Lit	9* (45%)	3 (15%)	5 (25%)	1 (5%)	2 (10%)	0 (0%)	0 (0%)	0 (0%)
10. Jacob asks Hannah if she thinks he is attractive. From the sound of Hannah's response, is it likely that she thinks Jacob is attractive?	Y	Lit	4 (20%)	1 (5%)	3 (15%)	1 (5%)	5* (25%)	0 (0%)	2 (10%)	4 (20%)
14. Rachel asks if anyone knows what an "apothecary" is. From the sound of Chandler's response, is it likely that he knows the definition of "apothecary"?	Y	Lit	3 (18%)	0 (0%)	2 (12%)	0 (0%)	5* (29%)	0 (0%)	6 (35%)	1 (6%)
15. Jerry tells Grace a story. From the sound of Grace's response, is it likely that Jerry's story has surprised her?	Y	Pros	4 (22%)	2 (11%)	0 (0%)	6* (33%)	3 (17%)	1 (6%)	0 (0%)	2 (11%)
16. Ellen asks Will if he has ever held a mouse. From the sound of Will's response, is it likely that he has held a mouse?	Y	Lit	7* (37%)	0 (0%)	4 (21%)	3 (16%)	2 (11%)	0 (0%)	2 (11%)	1 (5%)

Note: * signifies majority response; percentages rounded to the nearest hundredth; Lx Msg = Linguistic Message; Pros = Prosody; Flu = Fluency; Att = Attitudinal; Inf = Inference; Comp = Comprehension; Lit = Literal; N/R = No Response

Discussion

Summary of Findings

This study considered how 17 English language learners made decisions about speaker intent when conveyed through prosody. It also considered the strategies that they used in this decision-making process. Findings from the first research question showed a lack of agreement on speaker intent between the NNS group ($n = 17$) and the NS group ($n = 11-12$) for almost half (44%) of the speech acts. Unsurprisingly, in all cases of disagreement, the pragmatic meaning did *not* align with the literal linguistic message and was instead conveyed through prosody. On the other hand, in over half (56%) of the cases when NNSs did agree with NSs, the pragmatic meaning *did* align with the linguistic form, suggesting that the utterances which were easier to interpret had a transparent pragmatic force. The second main finding of the current study suggests that the learners relied to a minimal extent on prosodic cues or temporal fluency to decipher speaker intent when compared to their primary reliance on the literal linguistic message. Other strategies that were used were to associate an attitudinal function of prosody with the utterances or to engage in inferencing.

Limitations

The results of this study are marked by several limitations which should be noted before considering its contributions. First of all, while in many cases, NS agreement of pragmatic intent was 100%, in several other scenarios, it was less than 100% illustrating that even NSs do not predictably agree on a speaker's intention (Levis, 1999). Along a similar line, this study used NNS majority responses to compare to NSs' responses which meant that in some cases, majorities did not represent the entire sample. Furthermore, it was beyond the scope of the current study to provide full speech analyses of how the acoustic patterns prosody (e.g., prominence, intonation, etc.) were specifically used to convey alternative meanings. Finally, this study was marked by a small sample size, and the results should therefore be considered within a limited context.

Interpretations

While the results of this study should be considered in a limited context due to the above limitations, the findings demonstrate that the English learners experienced difficulty interpreting the prosodic cues of an utterance characteristic of a speaker's intent, likely due to a combination of first language differences in prosodic use and function in addition to the lack of shared intuitions between NSs and NNSs regarding intonational meaning (Levis, 1999). Because prosody conveys meaning far beyond what can be encoded linguistically at the surface level of an utterance (Wharton, 2012), English language learners face challenges when the linguistic form and speaker intent do not match up. This can be problematic in communication, for while they may understand the verbatim message, relying on its locution can cause the speaker's intent to be misinterpreted, ultimately leading to the entire pragmatic meaning being misconstrued (Celce-Murcia et al., 2010; Eslami-Rasekh, 2005).

Especially in cases of disagreement with NSs, the learners relied primarily on the literal linguistic message to make their decisions. When providing rationales, learners mostly recycled pieces of the linguistic message verbatim (e.g., "because the speaker said ____"; "when the speaker said ____"; "the speaker first said ____"), illustrating their focus on the linguistic form. This was a similar strategy used by low-level learners when making decisions about

indirect meaning in Taguchi et al., 2016. In the current study, when learners relied uniquely on the linguistic message, they were only able to interpret pragmatic meaning similarly to the NS group in a few cases when the form matched the intent, illustrating the limitations with this strategy usage.

In addition to this overall reliance on the locution (i.e., the words that were said), learners were also quick to associate an attitudinal function of prosody with the utterances or to rely on their own inferences. With respect to the former strategy, they used words such as “surprised,” “shocked,” “shy,” “unhappy,” etc. to rationalize their decisions. In fact, in the four cases when speaker intent was conveyed through prosody and NNSs *agreed* with NSs, the NNSs relied primarily on the speaker’s attitudinal meaning rather than the linguistic message or on inferencing. This finding illustrates that the learners detected speaker emotion and attitude—cues which appeared to have some degree of success in conveying pragmatic meaning.

The learners also engaged in a fair amount of inferencing, or extrapolating a general conclusion based on the situation or the overall sound. Inferencing was involved much more when the utterances had a prosodic pragmatic force. This strategy has similarities with the “logical reasoning” strategy used by L2 Spanish learners in Taguchi et al. (2016, p. 690). In their study, logical/deductive reasoning was the strategy used the most by high-scoring learners when comprehending indirect meaning. However, in the current study, inferencing was the primary strategy in leading NNSs to similar decisions as NSs for only two speech acts, both of which had a transparent pragmatic force. The difference between the two studies is likely due to the nature of the current one which focuses on prosody as the key indicator of speaker intent, whereas in Taguchi et al. (2016), indirect meaning was assessed through the actual language and rhetorical devices used for indirect refusals, indirect opinions, and irony.

Overall, the main strategies that were used by learners in the current study can prove to be unreliable in the salient situations when speaker intent is conveyed through prosody and does not at all match the literal meaning associated with the linguistic form. Intonation in particular, contributes to the illocutionary force of an utterance through its ability to alter what appears to be one type of speech act grammatically speaking into what the hearer can interpret as another type of speech act (Cohen, 2010; Wennerstrom, 2001). Furthermore, while it is unarguable that emotions and attitudes are conveyed through one’s voice quality (speaker emotion is not typically the result of the syntax of an utterance itself, see Celce-Murcia et al., 2010, p. 247), due to the lack of these one-to-one correspondences between attitudinal meaning and prosodic patterns, relying on speaker emotion/attitude lacks consistency and reliability (Levis & Wichmann, 2015; Wichmann, 2000). Shively et al.’s (2008) study illustrated how learners were inconsistent with how they selected tone to match their decisions about irony. Furthermore, the way NSs perceive speaker affect and emotion is likely to mismatch with how students perceive it (Levis, 1999), especially due to the fact that attitudinal cues of intonation are language-specific (Wichmann, 2000). Finally, for inferencing to be most successful, learners should first be able to interpret the prosodic cues and how they function for their inferences to lead them in the right direction.

Future Research

The current study has provided a glimpse into how a sample of NNSs agreed with NSs when making decisions about pragma-prosodic meaning in addition to the strategies that they used to do so. The next step in this line of research would be to perform acoustic analyses of the

speech files to determine *how* prosody is used to convey speaker intent. If general patterns can be added to a broader range of speech acts than what research has already uncovered, teachers can provide more direction in the classroom setting. However, to establish general patterns as opposed to isolated instances of idiosyncratic uses of prosody, larger sets of authentic data would be needed. Once these general patterns are collected, an intervention study could uncover to what extent learners rely on prosodic cues after having received the appropriate training, and subsequently, to what extent the prosodic cues are successful in pragmatic decision-making processes.

Pedagogical Implications

Speech act instruction has been a primary focus of L2 pragmatic instruction (Eslami & Mirzaei, 2012). Because NNSs can experience challenges in hearing and interpreting prosodic cues essential to pragmatic meaning (Celce-Murcia et al., 2010), there is a need for teachers to focus on the discourse-pragmatic functions of prosody in the classroom, or the way prosody is used to convey speaker intent across speech acts. Pronunciation teaching is indeed on the uptick, but there are still some limitations with its focus. Textbooks still largely situate the functions of intonation as grammatical (i.e., statements end with a falling tone, questions with a rising tone, etc.) or emotional while underemphasizing the discourse pragmatic function of intonation (Levis, 2016; Pickering, 2018). Doing so, however, can cause confusion among learners, especially when the expected associations between specific intonational patterns and speech acts are not upheld (Celce-Murcia et al., 2010).

Additionally, pronunciation textbooks have overemphasized prosody's role in conveying affective and emotional meaning, yet the problem with this approach is that there is no one-to-one correspondence between intonation and speaker affect, especially when dealing with sarcasm, humor, irony, and implicature (Bryant & Fox Tree, 2005; Levis, 1999; Shively et al., 2008). Indeed, even the terminology used to describe the attitudinal functions of intonation have been profuse, ad-hoc, and unhelpful over the years (O'Connor, 1973; Wichmann, 2000). Pickering (2018) suggests a move away from associating prosody with grammatical patterns of utterances to a focus on the discourse-pragmatic nature of intonation. This can be done by embedding pragmatic and prosodic instruction within larger meaningful interactional contexts which rely on realistic language, situations, and choices (Cohen, 2010; Derakhshan & Eslami, 2015; Levis, 1999). In other words, one should not focus on teaching set intonation patterns in isolation; these patterns do not hold across varying speaker intentions and pragmatic contexts; rather, pragma-prosodic instruction should provide learners with adequate opportunities to "listen for the shades of meaning in authentic conversational exchanges" (Celce-Murcia et al., 2010, p. 249).

Teachers should provide pronunciation instruction which assists learners in interpreting what one tone use communicates over another, what one prominent word highlights over another, or what one pitch level signals over another (see Kang & Kermad, 2019). All of these spoken cues can be insightful when deciphering pragmatic meaning across a variety of speech acts. Taking Levis' (1999) guidance, students should be made aware of the general patterns of intonation and the role of intonation in conversation. General prosodic patterns of some speech acts have already been noted in the literature (e.g., Aijmer, 1996; Brazil, 1997; Cheng et al., 2008; Kang & Kermad, 2019; Knowles, 2016; Pickering, 2018; Staples, 2015; Wells, 2006; Wennerstrom, 1997; Wennerstrom & Siegel, 2003; Wichmann, 2015) and can serve as starting points for teaching and learning general prosodic patterns of speech acts.

Pragma-prosodic instruction. What is encouraging from the results of the present study is that English learners do engage in a variety of thought processes and strategies to make decisions about speaker intent (Taguchi et al., 2016). That is, while learners struggled interpreting pragmatic meaning carried through prosody for almost half of the speech acts, they were still able to agree with NSs for a few select speech acts by relying on the speakers' perceived attitudinal meaning. Teachers who wish to engage in pragma-prosodic instruction can build on these foundations.

One highly recommended tool to bring awareness to the actual prosodic patterns of speech is through the freeware program Praat (Boersma & Weenink, 2016). Praat is a speech visualization software which is becoming much more popular in pronunciation instruction for use by both teachers and students. The benefit of using Praat is that it provides students with acoustic visuals of what is happening beyond the verbal content of a message, demystifying the process of trying to “hear” the prosody in early stages of training. Wichmann (2000) stresses the importance of prosodic analyses in making sense of the many nuances of speaking intent. Taking the example below in Figure 1 of turns within a speech act (assertion) used in the current study, some basic interpretations can be drawn.

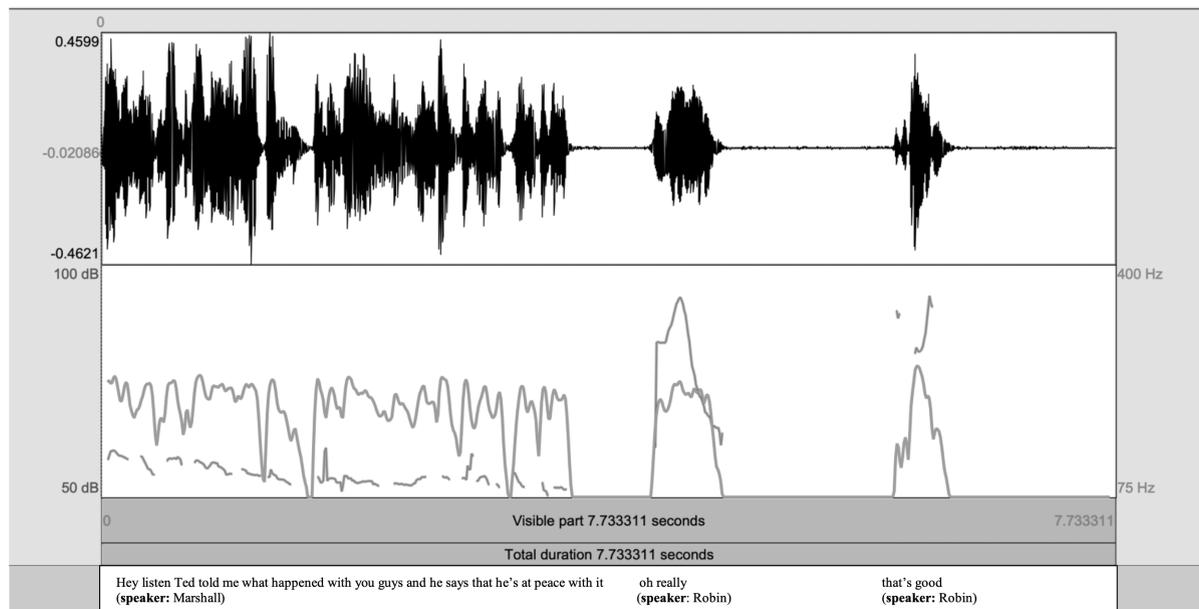


Figure 1. Praat Illustration of a Speech Act.

To provide a brief explanation of the information displayed in Figure 1, we can see that the top tier illustrates the waveform associated with the loudness (amplitude) of the speech. The second tier traces the pitch (blue line) as a measure of the fundamental frequency and the intensity (green) line of the speech. The interaction is transcribed at the bottom of the figure and provides the turns and corresponding speakers. We can see that there is an interaction between Marshall and Robin. Marshall states to Robin, “Hey listen, Ted told me what happened with you guys last night and hey says that he’s at peace with it.” Robin responds, “Oh really. That’s good.” Marshall states new information about Ted to Robin, and uses a falling intonation pattern to do so.

Several prosodic cues underlying Robin's assertion suggest that the pragmatic meaning does not align with the form, specifically, the utterance "That's good." First of all, Robin's response makes use of long pauses (evidenced by breaks in the waveform) between her initial response to Marshall (.63 seconds), and between her first and second utterance (1.31 seconds). These pauses are likely indicative of Robin's tentativeness with how to respond to this new information about Ted. Then, when Robin does assert "that's good" in her second tone unit, she uses a rising intonation pattern on the tonic syllable "good." Native speakers agreed 100% that Robin was actually not happy to hear this news, even though she responded "that's good." Using Brazil's (1997) framework as support, if Robin had truly been pleased with the state of Ted's condition, she would have used a falling tone to assert the information as "new," or not yet in play in the conversation. Instead, her use of the rising tone played on the assumption that Marshall expected her to be okay with the news, i.e., she was telling him what he wanted to hear. Another indicator that Robin was in truth not happy with the news was the lack of pitch concord (see Pickering, 2018) with Marshall. Pitch concord, or prosodic alignment, is when one speaker uses an initial pitch height relative to the final pitch height of the previous speaker. However, we can see that in Robin's initial response to Marshall, she was expressing her disagreement or discontentment with what Marshall was saying through her concord-breaking, or the prosodic mismatch between her pitch height relative to Marshall's pitch height. Taken together, based on Robin's pause time, her intonation, and her pitch concord-breaking, the hearer could perceive that it was likely that Robin was not pleased to hear that Ted was doing okay, even though she said she was.

Providing a prosodic analysis such as the one performed above can assist learners in the early stages of pragma-prosodic instruction, at least in providing awareness of what is happening beyond the words a speaker says. This training can serve an important function in meta-pragmatic training and consciousness-raising (see Derakhshan & Arabmofrad, 2018; Derakhshan & Eslami, 2015). Prosodic comparisons can then be made to provide ample opportunities for learners to interpret different pragmatic meanings of one speech act. For example, Culpeper (2011) uses speech visualization to provide side-by-side acoustic comparisons between contextualized evaluations of two judges on *Pop Idol—Raw Talent* (a British television series)—one which is polite and one which is comparatively impolite. This type of acoustic comparison can be combined with David Brazil's (1997) discourse-pragmatic framework for interpretation of key prosodic cues, such as prominence, intonation, and pitch height.

Conclusions

Despite the limitations associated with this study, initial evidence has pointed to a great need for pragma-prosodic training in the classroom to explicitly provide awareness of how a speaker's intent may not always align with the actual words they say. Teachers can build on the strategies that learners already use to bring their attention to physical speech properties underlying an utterance. This study has showed that this sample of English learners primarily relied on strategies related to the linguistic message, and additionally on attitudinal functions and inferencing. If teachers can bring awareness to intonation, sentence prominence, pitch, temporal fluency, etc. within the course of instruction on deciphering pragmatic meaning, learners can begin engaging in discussions about what consequences are involved when certain prosodic choices are made. Bringing this awareness to the classroom is one of the first steps in

preparing learners for pragmatic competence, for in order to respond appropriately, they must first interpret the intent appropriately.

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Appendix A

Directions: Please respond to the following questions. The rationale is a required answer and should be used to explain the answer you chose. The option “I don’t know” should only be used when you are really not sure of the answer. If you choose “I don’t know,” you should explain *why* in the rationale.

Likely ~ probably

Unlikely ~ probably not

Sound File #1: Jules asks Seth if he would like to go buy cover-up (makeup) with her. From the sound of Seth’s response, is it likely that Seth wants to go with Jules to buy makeup?

Circle one:

- a) Likely
- b) Unlikely
- c) I don’t know

What is your rationale for your choice?

Sound File #2: Owen asks Christina to go on a date.

From the sound of Christina’s response, is it likely that Christina is apologizing that she cannot go on a date with Owen?

Circle one:

- a) Likely
- b) Unlikely
- c) I don’t know

What is your rationale for your choice?

Sound File #3: Ellen compliments Michael.

From the sound of Michael’s response, is it likely that Michael tries to be cool?

Circle one:

- a) Likely
- b) Unlikely
- c) I don’t know

What is your rationale for your choice?

Sound File #4: A man gives another man a compliment.

From the sound of the second man’s response, is it likely that he is happy to hear the compliment?

Circle one:

- a) Likely
- b) Unlikely
- c) I don’t know

What is your rationale for your choice?

Sound File #5: House and Lisa have a conversation.

From the sound of House's response, is it likely that House is sorry?

Circle one:

- a) Likely
- b) Unlikely
- c) I don't know

What is your rationale for your choice?

Sound File #6: Amy asks Sheldon to apologize.

From the sound of Sheldon's response, is it likely that Sheldon is sorry?

Circle one:

- a) Likely
- b) Unlikely
- c) I don't know

What is your rationale for your choice?

Sound File #7: Marshall tells Robin that Ted is doing okay.

From the sound of Robin's response, is it likely that Robin is happy with the news?

Circle one:

- a) Likely
- b) Unlikely
- c) I don't know

What is your rationale for your choice?

Sound File #8: Ted asks Robin if she really loves him.

From the sound of Robin's response, is it likely that Robin loves Ted?

Circle one:

- a) Likely
- b) Unlikely
- c) I don't know

What is your rationale for your choice?

Sound File #9: Fousey asks a stranger on the street if she finds him attractive.

From the sound of the girl's response, is it likely that she finds Fousey attractive?

Circle one:

- a) Likely
- b) Unlikely
- c) I don't know

What is your rationale for your choice?

Sound File #10: Jacob asks Hannah if she thinks he is attractive. From the sound of Hannah's response, is it likely that she thinks Jacob is attractive?

Circle one:

- a) Likely
- b) Unlikely
- c) I don't know

What is your rationale for your choice?

Sound File #11: Monica asks Chandler if he is okay. From the sound of Chandler’s response, is it likely that he “is going to be fine”?

Circle one:

- a) Likely
- b) Unlikely
- c) I don’t know

What is your rationale for your choice?

Sound File #12: Helen wants to know if Annie is sick. From the sound of Annie’s response, is it likely that Annie is hungry?

Circle one:

- a) Likely
- b) Unlikely
- c) I don’t know

What is your rationale for your choice?

Sound File #13: Robin asks Ted about a deal. From the sound of Ted’s response, is it likely that Ted and Robin still have their deal?

Circle one:

- a) Likely
- b) Unlikely
- c) I don’t know

What is your rationale for your choice?

Sound File #14: Rachel asks if anyone knows what an “apothecary” is. From the sound of Chandler’s response, is it likely that he knows the definition of “apothecary”?

Circle one:

- a) Likely
- b) Unlikely
- c) I don’t know

What is your rationale for your choice?

Sound File #15: Jerry tells Grace a story. From the sound of Grace’s response, is it likely that Jerry’s story has surprised her?

Circle one:

- a) Likely
- b) Unlikely
- c) I don’t know

What is your rationale for your choice?

Sound File #16: Ellen asks Will if he has ever held a mouse. From the sound of Will’s response, is it likely that he has held a mouse?

Circle one:

- a) Likely
- b) Unlikely
- c) I don’t know

What is your rationale for your choice?

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