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Interactive Alignment of Multisyllabic Stress Patterns in a Second Language Classroom

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The current study explored the occurrence of stress pattern alignment during peer interaction in a second language (L2) classroom. Interactive alignment is a sociocognitive phenomenon in which interlocutors reuse each other's expressions, structures, and pronunciation patterns during conversation. Students ($N = 41$) enrolled in a university-level English for academic purposes class completed four collaborative tasks during a 13-week semester. The collaborative tasks were information-exchange quizzes that were seeded with multisyllabic words containing 3-2 (e.g., *consístent*) and 4-2 (e.g., *intélligent*) stress patterns (i.e., three- and four-syllable words with the stress on the second syllable). Transcripts were analyzed for alignment, which was operationalized as higher accuracy rates in discourse contexts where an interlocutor previously produced an accurate target stress. The results indicate that alignment occurred when students carried out all four collaborative tasks. Implications are discussed in terms of the potential role of alignment activities in helping L2 speakers practice pronunciation.
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The use of communicative tasks in second language (L2) classrooms is supported by extensive research that has demonstrated the positive impact of peer interaction on L2 learning (Philp, Adams, & Iwashita, 2013). However, this body of research has largely focused on the acquisition of L2 grammar and vocabulary, with L2 pronunciation receiving less attention. Despite mounting evidence that communicatively oriented pronunciation instruction is beneficial for L2 development (see Saito, 2012, for a recent review), the integration of pronunciation activities in L2 classrooms remains challenging for instructors. For example, a recent survey of pronunciation teaching in Canada showed that those teachers who included pronunciation in their lessons spent on average only about 6% of their class time on

practice activities (Foote, Holtby, & Derwing, 2010). Similarly, observation studies of intensive English classrooms, where the curricular focus on oral communication skills naturally lends itself to pronunciation instruction, reveal that teachers rarely focused on language (17% of all teacher input), with only 10% of the language-oriented input directed toward pronunciation (e.g., Foote, Trofimovich, Collins, & Soler Urzúa, 2013). Thus, pronunciation practice activities appear to be infrequent in L2 classrooms, even in contexts where the curriculum has a largely communicative orientation. In light of these issues, the current study explores whether collaborative tasks can be designed to provide opportunities for pronunciation practice. More specifically, it explores whether applying the principles of interactive alignment to the design of collaborative tasks can create opportunities for L2 students to practice one aspect of pronunciation: word stress placement in multisyllabic words.

Interactive alignment is a sociocognitive phenomenon whereby speakers tend to converge in their language use during conversation by reusing each other's expressions, structures, and pronunciation patterns (Pickering & Garrod, 2004). Pickering and Garrod's (2004) interactive alignment model posits that dialogue is the most natural form of human communication and that the goal of interaction is for interlocutors to achieve mutual understanding or to establish common ground, which includes information about people, time, actions, and their causes and consequences. One way for interlocutors to achieve mutual understanding is to align their language at various levels (lexical, syntactic, and phonological) by adopting and repeatedly using each other's language patterns. For example, during conversation speakers reuse each other's phonetic realizations of words (Pardo, 2006), lexical expressions (Brennan & Clark, 1996), and grammatical structures (Branigan, Pickering, Pearson, & McLean, 2010).

According to Pickering and Garrod (2004), a main mechanism that underlies interactive alignment is priming, which can be understood broadly as a cognitive repetition phenomenon (Chang, Janciauskas, & Fitz, 2012; Ferreira & Bock, 2006). A considerable body of lab-based research has shown that priming at the levels of pronunciation, vocabulary, and grammar occurs during conversation between first language (L1) speakers, between L1 and L2 speakers, and between L2 speakers (e.g., Branigan, Pickering, & Cleland, 2000; Kim, Horton, & Bradlow, 2011; Van Engen, Baese-Berk, Baker, Kim, & Bradlow, 2010). For priming of pronunciation and grammar, repetition occurs at the level of abstract structural patterns (such as syllable structure or word order), independently of the repetition of specific lexical items (Branigan, 2007; Ferreira & Bock, 2006). In other words, repetition of grammatical structures (such as passive constructions) can occur even when speakers

use different words in their sentences, and repetition of word stress patterns can occur even when speakers produce different words. However, what remains unclear is whether priming can be elicited in a classroom context in order to provide L2 learners with opportunities to practice pronunciation. If alignment is driven by a basic repetition phenomenon of priming that underlies all language use (Chang et al., 2012), then theoretically it should occur during peer interaction in L2 classrooms.

In contrast to the cognitive explanation of interactive alignment as priming, researchers in sociolinguistics have suggested that it can be explained through accommodation theory (Giles & Ogay, 2007). According to accommodation theory, interlocutors converge (or diverge) on shared linguistic and nonlinguistic behavior during social interaction as a function of their beliefs, attitudes, and sociocultural conditions (Giles, Coupland, & Coupland, 1991; Shepard, Giles, & Le Poire, 2001). Interactive alignment as convergence is explained by the interlocutors' conscious or unconscious desire for social integration and identification, whereas an absence of alignment through divergence is interpreted as desire to maintain distance, identity, or integrity. Giles et al. (1991) show that alignment occurs during controlled and spontaneous language use by L1 speakers at the levels of utterance length, speech rate, information density, volume, pause frequency, and pause length. At least some of these phenomena are thought to reflect verbal, facial, emotional, and behavioral repetition (Chartrand & Dalton, 2008). In sociocultural literature, there is preliminary evidence of alignment in interaction between an L2 learner and her tutor, with both interlocutors converging on common utterance complexity, body gestures, voice volume, and rate of speech (Atkinson, Churchill, Nishino, & Okada, 2007; Churchill, Nishino, Okada, & Atkinson, 2010). If convergence is a basic characteristic of social interaction that underlies alignment, then it should occur when peers carry out collaborative tasks in L2 classrooms.

To summarize, alignment during conversation has been shown to occur across levels of language in both cognitive and social domains, and has been hypothesized to be driven by the cognitive repetition phenomenon of priming and the sociolinguistic phenomenon of convergence. Interactive alignment has been described as the natural outcome of interactions between people who process language in similar ways and who share relevant linguistic and cultural background knowledge (Garrod & Pickering, 2009). However, this body of research has largely focused on L1 speakers interacting in tightly controlled experimental studies, which raises questions about its applicability to interaction between peers in L2 classrooms. Many L2 classrooms are socially, educationally, and linguistically diverse, with learners who possess different linguistic knowledge, progress through learning at different

rates, and process language in divergent ways. Furthermore, L2 learners may differ in how they construe their identities and how their identities impact L2 learning and use, particularly with respect to pronunciation, which is a salient identity marker (Lippi-Green, 2011; Rindal, 2010; Zuengler, 1988). And because some learners may not view collaborative tasks as a worthwhile learning activity (Brown, 2009) or may prefer to interact with some learners more than with others (Watanabe & Swain, 2008), they may be less likely to align their language use with that of their peers. In sum, alignment might not occur during peer interaction because the diversity inherent in L2 classrooms may interfere with its cognitive and social mechanisms. Therefore, as an important first step, the current study addresses the following research question: Does alignment in word stress placement in English multisyllabic words occur when students carry out collaborative tasks in an L2 classroom?

METHOD

Participants

The participants were 41 students (14 women, 27 men) pursuing undergraduate (37) or graduate (4) degree programs in business, engineering, sciences, and humanities at a Canadian university. They ranged in age from 17 to 30 years (M = 21.3) and had resided in Canada from 3 months to 5 years (M = 1.5 years). They reported speaking a variety of L1s, including Chinese (22), Arabic (8), French (4), Spanish (3), Vietnamese (2), Urdu (1), and Portuguese (1). On a 9-point scale (1 = *poor*, 9 = *fluent*), the students' mean self-rating for speaking and listening in English was 5.6 and 6.4, respectively. They reported using English for speaking an average of 51% of their day and using English for listening 65% of their daily time. They were enrolled in an English for academic purposes (EAP) class which was organized around thematic units and involved a wide variety of activities such as grammar, vocabulary, composition, reading comprehension, and group discussions. The course did not have any learning objectives related to pronunciation and did not include any explicit information or practice activities about pronunciation.

Word Stress Patterns

Word stress was targeted in the communicative tasks because missing or misplaced stress contributes to listeners' perceptions of

accentedness and difficulty in understanding L2 speech (Field, 2005; Kang, 2010) and is difficult for L2 speakers to acquire (Murphy, 2004; Tremblay, 2008). The target word stress patterns were three- and four-syllable words with the stress on the second syllable, which will be referred to using a numeric system for stress pattern identification used by Murphy and colleagues (Murphy, 2004; Murphy & Kandil, 2004). Briefly, this system uses digits to designate word length in syllables and the location of the stressed syllable. For example, a three-syllable word with the stress on the second syllable (e.g., *exísting*) belongs to the 3-2 stress pattern. Similarly, a four-syllable word with the stress on the second syllable (e.g., *intélligent*) belongs to the 4-2 stress pattern. In total, 80 target words corresponding to the 3-2 and 4-2 stress patterns were selected from the academic word list (AWL), which is a list of word families that frequently occur in academic discourse across disciplines (Coxhead, 2000). The 3-2 and 4-2 stress patterns are two of the three most frequent patterns in the AWL, accounting together for nearly 28% of all multisyllabic words in this corpus (Murphy & Kandil, 2004). All target words are listed in the Appendix, along with their frequency profiles based on the 51-million-word $\text{SUBTLEX}_{\text{US}}$ corpus of spoken American English (Brysbaert & New, 2009).

Materials and Procedure

The AWL words with the two target stress patterns were embedded into four collaborative tasks created around the course themes of family relationships, immigration and employment, human and animal intelligence, and children's health. Each task was an information-exchange quiz followed by discussion questions related to the course theme, readings, and assignments. The information-exchange quiz was based on a variety of freely accessible online sources that were selected to encourage the exchange of information about the topics. There were two versions of each task (Speaker A and Speaker B) so that each pair of students had 20 beliefs between them. To do the task, Student A would share a belief statement with Student B, who would then agree or disagree, after which Student A would confirm or refute the answer through reference to the supplementary information provided in the task materials.

The belief sentences and supplementary information were seeded with target AWL words, with one word embedded in a belief sentence and in its corresponding supplemental information. The total number of AWL words that each student received per task ranged from 10 to 20 depending on the suitability of the target words to the theme and

the discourse context. The stress in the target AWL words was not marked, and no explicit information about word stress patterns was provided. Table 1 shows examples of two beliefs and their supplemental information from the unit about immigration and employment. The first belief was provided as a complete sentence; the second belief was a sentence fragment that the student had to complete by using the supplemental information. Sentence fragments were included to discourage learners from simply reading information to each other. For the first item, the target AWL word was *rejécted*, and it appeared once in the belief sentence and once in the supplementary information. The second item presented the target AWL word (*exísting*) in the belief fragment and in the supplementary information. Before asking his or her partner about the second belief, the student first needed to complete the belief fragment by using the supplementary information.

The course instructor administered the collaborative tasks over a 9-week period during the students' regularly scheduled EAP class. The instructor distributed the task materials as homework so that the students could complete the sentence fragments prior to exchanging information orally. In the following class, students who had received different materials (version A or version B) worked in pairs (10–15 minutes) and their interaction was recorded using individual digital audio recorders.

Analysis

Research assistants transcribed and verified the audio recordings and marked the stress patterns of all target AWL words. Stress placement was determined auditorily by using vowel length, vowel intensity, and pitch height to identify the most prominent syllable. The third researcher verified the transcripts and stress-marked AWL words. The

TABLE 1
Sample Materials

Belief	Supplementary information
Sometimes job applicants are *rejected* because of their accent or manner of speaking.	Statistics show a trend for discrimination based on a speaker's accent. Job applicants cannot be *rejected* because of their accent unless it has a negative effect on job performance.
Existing work facilities Hint: How changed?	According to laws in many countries, employers must modify *existing* work facilities to accommodate workers with disabilities.

Note. The target AWL words are italicized here for illustrative purposes only; no typographic enhancement was used in the actual task materials.

first researcher then coded the AWL words in the verified transcripts for frequency of occurrence (total number of AWL words in each task) and accuracy (number of AWL words with correct stress divided by the total number of AWL words). Although misplaced and missing stress may impact listener judgment of production accuracy differently (Field, 2005), the statistical analysis focused on accurate pronunciation, as opposed to error types, to maximize the usable data points.

To determine the occurrence of alignment, each AWL word was classified according to the coding procedure used in corpus-based priming studies (Collentine & Collentine, 2013; Gries, 2005). The procedure yields the following four counts:

1. Speaker A's accurate production of an AWL stress pattern (e.g., *signíficant*)…
    a. followed by Speaker B's accurate production of an AWL stress pattern (e.g., *capácity*)
    b. followed by Speaker B's production of an erroneous/absent AWL stress pattern (e.g., *capacitý*)

2. Speaker A's production of an erroneous/absent AWL stress pattern (e.g., *significánt*)…
    a. followed by Speaker B's accurate production of an AWL stress pattern (e.g., *capácity*)
    b. followed by Speaker B's production of an erroneous/absent AWL stress pattern (e.g., *capacitý*)

Alignment is evidenced by a high proportion of counts in 1a, in which Speaker B produces an accurate stress pattern immediately following Speaker A's accurate production. However, an absence of alignment is evidenced by a higher proportion of counts in 2a, which occurs when Speaker B produces an accurate stress pattern even though Speaker A did not. Alignment is shown if speakers produce accurate AWL word stress patterns more frequently immediately after their interlocutor has produced them.

As described previously, the cognitive priming mechanism believed to underlie alignment occurs at the level of abstract structural configurations, rather than the simple repetition of lexical items (Branigan, 2007; Ferreira & Bock, 2006). Therefore, alignment included convergence in the pronunciation of the same word (e.g., Student A produces *signíficant* and then Student B produces *signíficant*) as well as convergence across different words with the same stress pattern (e.g., Student A produces *signíficant* and then Student B produces *capácity*). Alignment did not

include convergence across words with different stress patterns (e.g., 4-2 *significant* followed by 3-2 *exísting*). Although interesting from both theoretical and pedagogical perspectives, a separate statistical analysis of convergence in the same word versus convergence in the same stress pattern was not possible because it would have resulted in greatly reduced data counts in each of the four coded categories. The first researcher coded all of the transcripts, and a trained research assistant coded a randomly selected sample of 25% of the data (10/40 transcripts). Interrater reliability was .93 (Cohen's kappa). Alpha was set at .05, and nonparametric statistics were carried out because the data did not meet the assumptions required for parametric tests.

RESULTS

After student absences were taken into consideration, the entire data set consisted of 40 transcripts, with 10 transcripts (22 students) from the family task, 11 transcripts (23 students) from the immigration task, 10 transcripts (22 students) from the intelligence task, and 9 transcripts (20 students) from the health task. Table 2 summarizes the frequency and accuracy of AWL words produced in each of the four tasks. The students generated 23 to 29 AWL words per task and were fairly accurate in AWL stress placement, scoring between 75% and 89% correct.

The research question asked whether word stress alignment occurs when learners carry out collaborative tasks in an L2 classroom context. To determine the occurrence of alignment, the production of accurate AWL words in two discourse contexts was compared: (a) when an interlocutor produced an accurate AWL word in the preceding turn (i.e., 1a in the coding scheme) and (b) when an interlocutor did not produce an accurate AWL word in the preceding turn (i.e., 2a in the coding scheme).

As depicted graphically in Figure 1, across all four tasks the students produced a higher proportion of accurate stress patterns immediately following their interlocutor's accurate stress patterns than they did in

TABLE 2
Frequency and Accuracy of AWL Word Production by Interlocutor Groups

	Frequency			Accuracy rate		
Task	*M*	*SD*	*Range*	*M*	*SD*	*Range*
Family	26.9	10.9	12–49	.82	.14	.58–1.0
Immigration	23.7	9.5	13–39	.78	.11	.60–1.0
Intelligence	29.0	6.2	16–37	.89	.03	.85–.96
Health	25.6	12.1	7–45	.75	.13	.56–.95

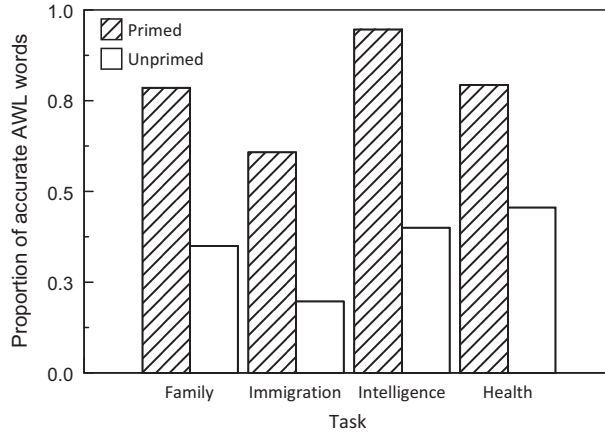

FIGURE 1. Mean proportion of accurate AWL word production as a function of context.

the absence of an interlocutor's accurate stress patterns. Consistent with the current definition of alignment as involving accurate stress patterns, the values shown in Figure 1 included both convergence between the two interlocutors in the pronunciation of the same word and convergence across different words with the same stress pattern. However, the majority of all cases of alignment (73% or 153/211) occurred in the form of convergence in the pronunciation of different AWL words with the same stress pattern, and fewer cases of convergence occurred in the form of repetition of the same AWL word (27% or 58/211).

To test whether the difference in accurate AWL word production across the two contexts was statistically significant, one-tailed Wilcoxon signed-ranked tests for related samples were carried out for each task. A statistically significant difference between contexts was detected for all four tasks: family, $z = 2.20$, $p = .014$, r (effect size) = .49; immigration, $z = 2.11$, $p = .017$, $r = .45$; intelligence, $z = 2.24$, $p = .012$, $r = .50$; and health, $z = 1.84$, $p = .033$, $r = .43$. Put simply, the students produced an accurate 3-2 or 4-2 target stress pattern word more frequently when their interlocutor had previously produced a word with the same stress pattern than when their interlocutor had not produced an AWL word with that stress pattern.

DISCUSSION

The objective of this study was to determine whether stress pattern alignment occurred when learners carried out collaborative tasks in an L2 classroom context. Our findings reveal that students produced a

greater proportion of accurate AWL words when their interlocutors had produced words with the same stress pattern in the preceding discourse context. The following excerpt, taken from the immigration task, illustrates alignment between the two students in terms of their production of accurate AWL words (1a in the coding scheme). In this example, alignment occurred across two nonidentical lexical items that follow the same 3-2 stress pattern.

A: Um Canada reports average number of refugee this number are low. Germany and Switzerland, for example, reports claims in numbers exceéding global average.

B: Uh often women are not considered for jobs because employers think that they will abándon their career for marriage and children.

In this exchange, Speaker B produced an accurate 3-2 stress pattern on *abándon* immediately after hearing an accurate 3-2 stress pattern on *exceéding* spoken by Speaker A. This finding of stress pattern alignment in peer interaction thus extends previous lab-based alignment research carried out with L2 speakers (e.g., Kim et al., 2011). The findings indicate that interactive alignment can occur during collaborative tasks in L2 classrooms despite the inherent diversity across learners' language backgrounds and knowledge, cognitive and affective characteristics, and views toward effective teaching and learning (see also Trofimovich & Kennedy, 2014).

One possible explanation for alignment is that the students' overall word stress accuracy was high, ranging from 75% to 89% across the four tasks. With such high accuracy rates, it is possible that their conversation simply failed to generate contexts where an AWL word was produced with absent or inaccurate stress (level 2 in the coding scheme). However, this interpretation is unlikely because there was no significant relationship between learners' alignment and accuracy rates in any of the four tasks (*rho* = .61, p = .06; *rho* = .48, p = .13; *rho* = .11, p = .77; *rho* = .51, p = .16), suggesting that alignment and accuracy were unrelated. In fact, it would not be altogether surprising to obtain a relationship between alignment and accuracy because learners cannot produce a pattern that they have not acquired. Previous studies with L1 children and adult L2 learners have shown that alignment occurs only for structures that speakers already know, but not for absolutely novel patterns (e.g., Savage, Lieven, Theakston, & Tomasello, 2006). Alignment should increase with a growing level of L2 learners' proficiency and familiarity with a given pronunciation pattern, and alignment could thus be conceptualized as having a bidirectional, reciprocal relationship with learners' pronunciation skill. In other words, greater skill levels lead to more alignment, while more alignment elicits greater practice and skill development.

In addition to alignment in the desired direction of accurate word stress patterns, there were a few instances of alignment in the opposite direction ($n = 12$) in which interlocutors converged on an inaccurate stress pattern. In the following excerpt, for example, Speaker B repeats the inaccurate stress pattern in the word *sufficiént* after hearing it produced by Speaker A (2b in the coding scheme).

A: Sufficiént employment... for immigrant.

B: Sufficiént employment rate for immigrant is the same for the Canadian-born people.

In this example, alignment toward an inaccurate stress pattern involved the same lexical item produced by both learners, but this type of alignment also occurred across different lexical items with the same stress pattern. Alignment toward inaccurate stress patterns may be an illustration of how learners reinforce errors in each other's speech (e.g., see Ellis, 2006, for an overview of usage-based entrenchment). This would again correspond to a bidirectional, reciprocal relationship between learners' pronunciation skill and alignment, but in the opposite direction, where learners might tend to align on erroneous L2 pronunciation patterns. In our data, this type of negative alignment was infrequent, and its potential impact on L2 learners in instructional settings could be offset by the numerous target models available through teacher input and feedback.

The finding that stress pattern alignment occurs during peer interaction has potential implications for integrating pronunciation practice into communicatively oriented L2 classrooms. Although it is tempting to speculate about the learning value of interactive alignment, entertaining the idea that interaction-based alignment in pronunciation could lead to L2 pronunciation development, the current data set does not directly contribute to this issue. The goal of this study was to determine whether alignment occurs in peer interaction as a necessary first step before examining its potential learning value. As a result, this study did not adopt the pre/posttest, control group design that is methodologically necessary to test the impact of alignment on learning. Although the link between alignment and L2 pronunciation development is yet to be established (see Trofimovich, 2013), there is encouraging evidence suggesting that such a link might in fact exist. For instance, priming of grammar patterns in peer interaction has been shown to be beneficial for learners' development (McDonough & Chaikitmongkol, 2010). Similarly, providing recasts of learners' pronunciation errors in combination with pronunciation instruction may positively impact the development of learners' perception and production skills (Saito, 2013a, 2013b). Indeed, recasts can

be conceptualized broadly as a prime given by the teacher in response to a learner's nontarget utterance, with the assumption that the learner would repeat the modeled form in a subsequent utterance.

The learning value of alignment notwithstanding, one possible implication of our findings is that collaborative tasks can be designed and implemented in ways that provide additional pronunciation practice, which (as discussed earlier) is often lacking in L2 classrooms. This suggestion is fully compatible with the view of alignment as a phenomenon that occurs for already known and familiar structures, as opposed to novel ones. Thus, teachers might think of alignment activities as tools for helping learners consolidate and extend the knowledge of a pronunciation pattern which was previously targeted through instruction, with alignment activities providing learners with opportunities to proceduralize and automatize recently learned phonetic knowledge (DeKeyser, 2007). Indeed, across the four tasks in this study, learners had opportunities to hear and produce the target stress patterns repeatedly without intentionally focusing on pronunciation and simultaneously practicing other skills such as fluency and vocabulary retrieval. These types of collaborative tasks provide students with ample opportunities to practice the target patterns during communicative, meaning-focused interaction. And these tasks could supplement existing pronunciation teaching techniques, such as those that target teaching segmental or suprasegmental aspects of the L2 (e.g., Derwing, Munro, & Wiebe, 1998), focus on feedback (e.g., Saito & Lyster, 2012), or foster perceptual and language awareness skills (e.g., Couper, 2011).

Communicative tasks with a pronunciation component may be particularly useful in mixed-skills L2 classes where the quantity of class time may not allow for the inclusion of pronunciation instruction and individual students may have a wide variety of pronunciation difficulties. By using collaborative tasks seeded with specific pronunciation targets, instructors can add extra practice opportunities for learners who need it, without causing negative consequence to those who have already mastered the form. Because alignment occurs at the level of abstract structural patterns, with or without repeated lexical content, alignment activities should lend themselves best to communicative practice of thought groups, rhythmic and intonation patterns, natural speech phenomena (e.g., linking, assimilation), and syllable structure (e.g., syllable onsets and codas, consonant clusters). For example, after instructors introduce word stress through a focused pronunciation activity, they could implement a communicative task seeded with those stress patterns later in the same unit. Instructors might also mine the communicative activities they already use for pronunciation practice by identifying a word stress pattern, syllable structure, or intonation pattern that occurs naturally in the task materials. Because such tasks would feature multiple

instances of the target patterns, learners might get additional practice through alignment in learner–learner interaction, perhaps in combination with instructor feedback. Communicative tasks of this kind would not only provide pronunciation practice but also generate opportunities for students to consolidate vocabulary knowledge, build fluency, or access grammatical structures during spontaneous language use. Of course, this does not mean that collaborative tasks should replace pronunciation instruction, but they can provide learners with opportunities for skill development through practice and interactive alignment.

CONCLUDING REMARKS

Having shown that interactive alignment of stress patterns can occur during peer interaction in L2 classrooms, the findings suggest several promising lines of future research. Future studies should clarify whether interactive alignment is influenced by L2 learners' background knowledge of the target linguistic structures. Interactive alignment as a basic cognitive repetition phenomenon is likely to depend on L2 learners' knowledge of the lexis, grammar, and phonology that are built into the tasks as well as the complexity of the target structure. Similarly, interactive alignment as socially mediated convergence is likely to be influenced by L2 learners' attitudes toward pronunciation in general and their peer's pronunciation specifically, which future research could elicit through introspective methods. Future research can also target specific aspects of classroom communicative tasks, with the view of determining how task features (e.g., different tasks types and their sequencing) influence alignment, and can focus on other pronunciation targets, particularly those that are associated with lack of understanding in L2 interaction. Ultimately, it would also be important to evaluate the learning potential of interactive alignment tasks through carefully designed studies of pronunciation development.

Classroom research provides greater ecological validity for studies that explore the classroom application of theoretically oriented, interactive alignment research, thereby providing potentially more valuable information to L2 instructors. However, due to the inherent diversity and spontaneity of L2 classrooms, they provide researchers with less control over the variables that can impact the occurrence of interactive alignment, such as turn-taking patterns, time on task, and length and depth of interaction. Although future research in more controlled settings may clarify and expand on the results shown here, additional classroom research can also contribute to a richer, more multifaceted understanding of interactive alignment. Collaborative tasks designed to promote alignment are a pedagogical tool that can help L2 learners

gain extra pronunciation practice during meaning-focused interaction, thereby giving instructors an additional option for pronunciation instruction to complement other teaching approaches.

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APPENDIX

AWL WORD TARGETS

Family			Immigration and employment		
Word	Pattern	Frequency (words per million)	Word	Pattern	Frequency (words per million)
statistically	4-2	1	consistently	4-2	0.86
phenomenon	4-2	4.59	initially	4-2	2.06
apparent	3-2	4.22	expanding	3-2	1.96
restricted	3-2	4.1	sufficient	3-2	4.76
devoted	3-2	8.2	excluded	3-2	1.16
reluctant	3-2	2.51	exceeding	3-2	0.62
depression	3-2	7.96	precisely	3-2	11.98
enforcement	3-2	6.65	percentage	3-2	3.76
significant	4-2	6.49	professionals	4-2	5
capacity	4-2	8.1	predictably	4-2	0
initiates	4-2	0.16	requirements	4-2	1.84
exhibited	4-2	0.82	specific	4-2	1.88
establish	3-2	6.33	identified	3-2	10.27
convincing	3-2	6.92	conventional	3-2	3.04
contribute	3-2	0.31	abandon	3-2	13.29
exhibit	3-2	7.61	consistent	3-2	5.75
reliably	4-2	0.18	rejected	4-2	6.61
objectively	4-2	1	existing	4-2	1.92
presumably	4-2	1.67	distributed	4-2	1.31
eventual	4-2	0.43	equivalent	4-2	2.63

Human and animal intelligence			Children's health		
Word	Pattern	Frequency (words per million)	Word	Pattern	Frequency (words per million)
instruction	3-2	2.02	uniquely	3-2	0.73
achievement	3-2	1.08	considered	3-2	23.18
enhances	3-2	0.29	intensive	3-2	2.2
dimensions	3-2	2	component	3-2	1.59
attainment	3-2	0.06	essentially	4-2	3.25

Table *(Continued)*

Human and animal intelligence			Children's health		
Word	Pattern	Frequency (words per million)	Word	Pattern	Frequency (words per million)
preceding	3-2	0.67	potentially	4-2	3.35
established	3-2	8.14	perception	3-2	3.53
comprises	3-2	0.08	ensuring	3-2	0.45
predicting	3-2	1	required	3-2	10.73
creative	3-2	10.75	assumption	3-2	3.33
communicate	4-2	0.25	priority	4-2	10.18
intelligence	4-2	19.27	appropriate	4-2	12.88
domestic	3-2	6.88	affected	3-2	6.76
assessment	3-2	3.1	conclusion	3-2	9.12
acknowledged	3-2	1.96	transmitted	3-2	2
responses	3-2	1.57	assistance	3-2	10.94
available	4-2	25.94	hypothesis	4-2	0.86
environment	4-2	0.63	identical	4-2	5.53
inherent	3-2	0.59	detected	3-2	3.47
awareness	3-2	2.25	proportion	3-2	2.73