



**Raising business communication students' awareness of nonverbal features of interaction**

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English Abstract

Analysis of conversations between international university students in the Corpus of English as a Lingua Franca Interaction (CELFI, McDonough & Trofimovich, 2019) has demonstrated that holds, which are temporary cessations of dynamic movement, are a robust visual cue of nonunderstanding that can be reliably interpreted by external observers as signals of listener comprehension difficulties (e.g., McDonough et al., 2019, 2022, 2023). Using CELFI materials, this study used an experimental design to explore whether business communication students ( $N = 64$ ) benefit from instructional activities designed to raise their awareness of holds as a signal of nonunderstanding. The students carried out perception tests in Week 1 and Week 5 that presented video excerpts from CELFI showing the depicted listeners' hold onsets and releases, and the students rated those listeners' comprehension. In the interim, 31 students completed weekly awareness-raising activities via Moodle (2 hours per week) for four weeks. A mixed ANOVA showed that students who participated in the awareness-raising activities showed significant improvement in their ability to discriminate between hold onsets and releases. Implications for the use of awareness-raising activities to promote recognition of nonverbal behavior are discussed.

Keywords: nonverbal communication, holds, nonunderstanding, business communication; awareness

French Abstract

L'analyse des conversations entre étudiants universitaires internationaux dans le *Corpus of English as a Lingua Franca Interaction* (CELFI, McDonough & Trofimovich, 2019) a démontré que des arrêts temporaires du mouvement dynamique sont un signe visuel solide de non-compréhension qui peuvent être interprétés de manière fiable par des observateurs externes comme des indicateurs de difficultés de compréhension de l'auditeur (par exemple, McDonough et al., 2019, 2022, 2023). À l'aide du matériel du CELFI, cette étude a utilisé une conception expérimentale pour déterminer si les étudiants en communication d'entreprise ( $N = 64$ ) bénéficient d'activités pédagogiques conçues pour les sensibiliser aux arrêts des comportements non verbaux en tant que signe de non-compréhension. Au cours de la première et la cinquième semaine, les étudiants ont effectué des tests de perception qui présentaient des extraits vidéo du CELFI montrant les arrêts et les recommencements des mouvements non verbaux des auditeurs représentés, et les étudiants ont évalué la compréhension de ces auditeurs. Entre-temps, 31 étudiants ont suivi des activités de sensibilisation hebdomadaires via Moodle (2 heures par semaine) pendant quatre semaines. Une ANOVA mixte a montré que les étudiants qui ont participé aux activités de sensibilisation ont montré une amélioration significative de leur capacité à faire la distinction entre les arrêts et les recommencements des mouvements non verbaux. Les implications de l'utilisation d'activités de sensibilisation pour promouvoir la reconnaissance des comportements non verbaux sont discutées.

### Plain Language Summary

When listening, people can signal that they do not understand the speaker by using words (e.g., “*what?*”) or body language. One type of body language that listeners use in many different languages and cultures to show that they do not understand the speaker is hold. A hold is a brief stop in dynamic movement that the listeners maintain until they understand again. In this study, we taught business communications students about holds to see if they could get better at recognizing them. This skill would help them know if their listeners were understanding so that they could change what they were saying. We taught some students about holds and compared them to other students who did not learn about holds. We found that the students with training did better at recognizing when a hold started and ended than the students who did not get training.

### **Raising business communication students' awareness of nonverbal features of interaction**

The importance of communication skills in the workplace is regularly confirmed by university faculty, employers, and accrediting bodies (e.g., AACSB International, 2020). For example, the most recent National Association of Colleges and Employers job outlook survey ranked communication as the second most important skill topped only by critical thinking (Gray, 2021). Furthermore, whereas 98.5% of the respondents regarded communication as important, only 54.3% believed that recent graduates had “very” or “extremely” proficient communication skills. In terms of oral skills, surveys have shown that workplace professionals highly regard the abilities of adapting to an audience, such as delivering audience-appropriate content (Coffelt et al., 2019), building relationships and putting others at ease (Coffelt & Smith, 2020; Cyphert et al., 2019), and deploying interpersonal skills, which include nonverbal communication (Coffelt et al., 2016; Dunn & Lane, 2019; Hastings et al., 2020). Despite the importance placed on interpersonal skills in the workplace, studies have shown that employers do not believe their interns have adequate command of those skills when interacting with colleagues and management (Dunn & Lane, 2019).

In light of the importance of oral communication skills, including nonverbal behavior, in the workplace, researchers have investigated how university students interact during business interactions (e.g., negotiations, case study presentations) and whether they benefit from training programs. Highlighting the role of nonverbal communication in simulated negotiations, Bjørge (2010) found that undergraduate business students accomplished backchanneling nonverbally (i.e., through head nods) more frequently than verbally (e.g., by saying *yes/yeah* or *mhmm*). Furthermore, their nonverbal listening behavior reflected important interpersonal skills, such as rapport management, attention, and agreement. Also focusing on nonverbal communication,

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Peterson and Leonhardt (2015) reported that graduate business students who received training about how to communicate nonverbally through body position, arms, face, hands, and legs subsequently presented case study analyses that were evaluated as being more persuasive than students who did not receive any training. Furthermore, Drury-Grogan and Russ (2013) reported that undergraduate business students who participated in a simulation-based business communication course benefitted from instructional modules that targeted the use of nonverbal cues during professional interactions.

Additional insight into the development of nonverbal communication skills has been provided from research with international university students. In a longitudinal case study, Tian and McCafferty (2021) found that four Chinese undergraduate students at an American university became more aware of differences in gesture use between American English and Mandarin over time but remained hesitant to adopt American English gestures due to a lack of comfort with them or difficulty delivering gestures and speech simultaneously. However, Hilliard (2020) reported that participation in awareness-raising activities focused on first language (L1) English speakers' gestures helped intensive English students increase their understanding and use of gestures. Reflecting a shift away from L1-speaker conventions, Cheng (2016) explored the use of second language (L2) interactions to help preacademic ESL students become more aware of contextual pragmatic knowledge about disagreements during group work. After watching and discussing video-recordings of ESL students disagreeing with each other during group discussions, the participants gained more insight into the multimodal performance of disagreeing. Taken together, the prior studies with business and international university students have shown that students can benefit from awareness-raising activities that highlight nonverbal aspects of communication that contribute to interpersonal skills.

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Using L2 interactions as a basis for such awareness-raising activities, rather than relying on L1-English speakers' language and behavior, may be particularly useful for preparing business communications students for their future careers. English is widely used as a "corporate" lingua franca by multinational corporations in official documents and presentations and for communication in public spaces where English may be the only shared language among employees (for a conceptual review of English as a corporate language, see Kankaanranta et al., 2018). Interactions in business settings may involve L2-English speakers exclusively or include a mixture of L1 and L2 speakers, with the prevalence of L2-English speakers leading to reduced importance of L1-speaker models and norms (Nickerson, 2015) and the prioritization of domain knowledge (Cogo, 2012) along with the development of local communication practices for both verbal and nonverbal behavior (Nielsen, 2020). Rather than being defined as command of linguistic forms, effective communication in such contexts is based on the ability to build rapport and trust, engage in relational talk, and build and maintain interpersonal relationships (Ehrenreich, 2016; Kankaanranta & Louhiala-Salminen, 2020; Louhiala-Salminen & Kankaanranta, 2011). In light of the prevalence of L2-English interactions in business settings, business students would clearly benefit from opportunities to engage with authentic materials that illustrate effective communication practices between L2-English speakers from diverse backgrounds, particularly practices that contribute to the creation and maintenance of interpersonal relationships.

An aspect of interaction that can potentially negatively affect interpersonal relationships is communication breakdowns. Broadly defined as a lack of communication or failure to exchange information, communication breakdowns can occur in different forms. A relatively common type is non-hearing, which occurs when the listener does not hear what the speaker

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said, such as if there were a loud noise. Miscommunication occurs when the listener has heard the speaker but understands the message differently than it was intended with that discrepancy becoming apparent during the conversation. Although misunderstanding similarly involves divergence between message intent and interpretation, the discrepancy becomes apparent only retrospectively, such as if a listener comes home from the grocery store and presents a tomato to a speaker who had requested a potato. In contrast to miscommunication and misunderstanding where the listener does reach an interpretation (albeit not the one intended by the speaker), in cases of nonunderstanding, the listener cannot make sense of the speaker's utterance. When confronted with the inability to understand the speaker, a listener may choose to "let it pass" (i.e., ignore the nonunderstanding and continue the conversation; Firth, 1996) or engage in verbal or visual means of resolving it to achieve understanding. Because language and cultural misunderstandings can cause economic losses for companies (Commisceo Global, n.d.), business students would benefit from training to help them recognize nonunderstanding and pursue resolution in ways that do not negatively affect interpersonal relationships.

Prior research has described how English as a lingua franca (ELF) speakers avoid misunderstandings (which are only apparent retrospectively) by taking measures to pre-empt nonunderstanding during conversation by explaining, repeating, rephrasing, restructuring, and creating redundancy (Kaur, 2009; Mauranen, 2006, 2007). In ELF interactions, when nonunderstanding has not been pre-empted, frequently used verbal means of remediation include direct clarification requests (e.g., *what?*) and minimal incomprehension tokens paired with rising intonation (e.g., *hmm?*) (e.g., Mauranen, 2006; Pietikäinen, 2018). Occurring in isolation or concurrent with verbal means, nonverbal remediation, such as leans, head movements, facial expressions, eye gaze, and freeze looks or holds (i.e., the temporary cessation of dynamic

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movement), has been shown to occur during nonunderstanding episodes in dyadic conversation between L1 speakers of diverse language and cultural backgrounds including Argentine Sign Language, Cha'palaa, English, Northern Italian, Swiss German Sign Language, Yélf Dnye, as well as in conversations between L2-English speakers from a variety of cultural backgrounds such as Arabic, Farsi, Korean, Mandarin, Spanish, and Tamil (Floyd et al., 2016; Groeber & Pochon-Berger, 2014; Kendrick, 2015; Levinson, 2015; Manrique, 2016; McDonough et al., 2019, 2022, 2023; Seo & Koshik, 2010). Focusing specifically on nonunderstanding in conversations between L2-English university students, McDonough and colleagues (2019, 2020, 2021) found that holds occurred more frequently with clarification requests than with follow-up questions; furthermore, external observers could recognize holds as a signal of listener comprehension difficulty and associate the release of the hold with a return to understanding.

Because interlocutors, researchers, and external observers have consistently detected and interpreted holds as a visual cue of nonunderstanding, a logical next step is to consider whether it may be useful to raise business communication students' awareness of them. First, it might be helpful for business students to recognize the visual signs of nonunderstanding since some listeners may choose to let nonunderstanding pass without asking for clarification verbally, which is potentially problematic in business interactions. In cases where listeners signal their lack of understanding through nonverbal means only (i.e., without verbal remediation), speakers may benefit from being able to detect the more subtle visual cues. Second, the ability to detect subtle listener visual cues would allow speakers to self-repair, which is generally preferred to other-repair as shown through conversation analysis (e.g., Schegloff et al., 1977) and ELF interaction research (Kaur, 2011; Mauranen, 2006; Pietikainen, 2018). In addition, when initiating repair there is a preference for the least complicated means, such as allowing for the

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possibility that the listener had a hearing problem (“*what?*”) as opposed to a problem with understanding or acceptability (i.e., “*Are you sure about that?*”) (Pomerantz, 1984; Svennevig, 2008). Nonverbal holds may be the least complicated means of signalling the need for repair, but only if speakers can identify and interpret them, thereby leading them to employ verbal remediation.

When speakers can interpret listeners’ visual cues (such as blank faces) as indicators of nonunderstanding, they then provide additional information and paraphrase to avoid forcing the listener to pursue verbal remediation or feign understanding (Van der Zwaard & Bannick, 2020). In sum, business students may benefit from awareness-raising activities that help them recognize holds so that they can pre-empt nonunderstanding by initiating self-repair so that listeners are not required to verbally request clarification. To test this possibility, the current study addressed the following research question: Do awareness-raising activities help business communication students recognize holds as a signal of nonunderstanding?

## Method

### Participants

The participants ( $N = 64$ ) were undergraduate students enrolled in a business communication class at an English-medium university in Montreal, Canada. Reflecting the linguistic diversity of Montreal, they had a variety of L1 backgrounds including English (35), French (13), Arabic (4), Bengali (2), Farsi (2) and one speaker each of Hindi, Italian, Korean, Mandarin, Polish, Spanish, Tamil, and Urdu. Having a sample with both L1- and L2-English speakers, our a priori decision was to obtain a realistic picture of how business communication students respond to training focused on nonverbal communication without assuming that students from L1- and L2-English backgrounds would differ. In fact, as a group, the 64 students

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nearly perfectly illustrated the linguistic landscape of the university from which participants were drawn (79% domestic students, 21% international students), with 75% of participating students (16/64) reporting English or French as their L1 and 25% of participants (48/64) representing various L1 backgrounds. Students ranged in age from 18 to 33 years ( $M = 20.6$ ,  $SD = 2.3$ ). The non-Canadian-born participants ( $n = 23$ ) included naturalized Canadian citizens, permanent residents of Canada, and international students. In response to an open-ended question, students identified with two gender groups: male (52%) and female (48%). Students in the control group only completed the tests ( $n = 33$ ) whereas those in the awareness-raising group also did the awareness-raising activities ( $n = 31$ ). The distribution of gender, age, and L1 backgrounds was similar for the two groups.

## Materials

The materials used for this study included two holds discrimination tests and a series of awareness-raising activities delivered through an online learning platform (Moodle). To test participants' ability to identify holds as a visual cue of nonunderstanding, a video-rating task was implemented using videos from the Corpus of English as a Lingua Franca Interaction (CELF, McDonough & Trofimovich, 2019). Two tests were created and administered using LimeSurvey (<https://www.limesurvey.org>) for use as the pretest and the posttest. The silent videos showed a student either producing a hold (moment of nonunderstanding) or releasing a hold (moment of understanding). [Examples of still images that illustrate a hold onset and release are provided in Figure 1.](#) The hold onset videos (10 per test version) showed the listener one second before the hold, their hold onset, and the first second of their hold being maintained, resulting in 3.76-second video clips on average ( $SD = 0.91$ ). The hold release videos (10 per test version) showed the listener during the last second of their hold, their hold release, and about two seconds of their

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response to their interlocutor, resulting in 3.08-second videos on average ( $SD = 0.74$ ). These videos appeared in a unique random order for each participant. Located below each video was a continuous 100-point slider scale (with the initial slider position set at 50) which was used to evaluate the listener's comprehension (i.e., how much participants thought the listener in the video understood the speaker). The scale endpoints were labeled with a negative anchor point on the left (*this student understood 0%*) and a positive anchor point on the right (*this student understood 100%*). After rating all the videos, the students completed an open-ended question to report what information they drew upon when rating the listeners' comprehension.

### Figure 1

*Examples of hold onsets and hold releases for a forward lean and head tilt*

Hold Onset	Hold Release
1. Forward Lean Hold 	
2. Head Tilt Hold 	

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Although the two tests included hold onset and release videos from different students, the difficulty of the task was matched between both versions based on ratings provided by 60 raters from a previous study (McDonough et al., 2023). Difficulty was judged based on average difference scores between the hold and release videos of the same student, such that a larger positive difference score indicated greater ease in distinguishing hold onset and release, whereas smaller or negative difference scores indicated greater difficulty in differentiating between hold onset and release. The video difficulty level was matched so that the mean difference scores were 33.00 ( $SD = 13.34$ ) for the pretest and 33.30 ( $SD = 13.23$ ) for the posttest. Paired-samples  $t$  tests confirmed there was no significant difference in differentiation scores between the two tests,  $t = -.055, p = .957, d = .017$ .

The awareness-raising activities were delivered through Moodle over a four-week period. The four weekly Moodle modules involved a variety of awareness-raising activities (e.g., lectures, identification and discrimination tasks, discussions, and journal entries) to help students recognize the visual signature of nonunderstanding while becoming more aware of nonverbal communication. The complete list of activities for each week is provided in Table 1. Each week included approximately two hours of learning tasks along with a journal entry.

Table 1

### *Awareness-Raising Activities*

Week	Theme: Goal	Learning tasks	Journal topic
1	Introduction to miscommunication: Introduce types of communication breakdowns	1. TED Education video (5 minutes) about communication & post-viewing multiple-choice quiz (8 items) 2. Lecture about communication breakdowns (5 minutes) and	Describe a communication breakdown students observed that week

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		post-viewing multiple-choice quiz (5 items)	
		3. Asynchronous discussion task about students' experiences with communication breakdowns (2 prompts)	
2	Introducing visual cues: Raise general awareness of nonverbal communication	<ol style="list-style-type: none"> <li>11 items from the Movie for the Assessment of Social Cognition test (Dziobek et al., 2006) (10 minutes)</li> <li>Two lectures (10 minutes each) about visual cues of nonunderstanding with practice discrimination items (9)</li> <li>Short-response questions (2) about strategies for avoiding nonunderstanding</li> <li>Differentiation activities using CELFI videos not used in the tests (15)</li> </ol>	Describe any nonverbal cues students identified during conversations that week
3	Holds: Introduce holds as a sign of communication breakdown	<ol style="list-style-type: none"> <li>Lecture (13 minutes) about hold types with practice items (4)</li> <li>Three sets of hold identification activities (34 items)</li> </ol>	Describe two holds students observed during that week
4	Review: Practice identifying and producing nonverbals	<ol style="list-style-type: none"> <li>TEDx talk (13 minutes) about using nonverbal cues to enhance communication skills followed by short-answer questions (4 items)</li> <li>Interactive discussion about business communication with</li> </ol>	Describe two scenarios where they produced a hold that week

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research assistant via Zoom (15 minutes)

3. Asynchronous discussion of visual cues in television show clips (2 prompts)
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In Week 1, students were introduced to the core topic of communication breakdowns (i.e., miscommunication and nonunderstanding) and were encouraged to connect these concepts to their daily life. The activities included watching a 5-minute TEDx video, which introduced the basic concepts of communication and how miscommunication can occur, followed by an eight-question multiple-choice quiz on the video content. This unit also included audio-narrated PowerPoint slides (5 minutes) about different types of communication breakdown with a related quiz. The quiz was an asynchronous discussion task where participants posted responses to questions targeting their awareness of nonverbal behaviors (e.g., *How do you know when someone is not understanding you?*) on the discussion board; and a journal entry describing a communication breakdown they observed that week.

The second week provided activities aimed to help participants recognize visual signals (e.g., gestures, eye gaze, and body postures) indicating that their interlocutor has failed to understand them. These tasks included a Movie for the Assessment of Social Cognition (MASC) test (Dziobek et al., 2006) where participants were asked to identify characters' thoughts and feelings throughout a short film (10 minutes); two narrated PowerPoint slides (10 minutes each) introducing how nonunderstanding is typically displayed through nonverbals while providing decoding and discrimination activities; short-response questions about the strategies participants use when they experience nonunderstanding; a LimeSurvey-based perception task using videos from CELFI (not used in the pre- or posttests) which required participants to distinguish between

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understanding and nonunderstanding episodes based on nonverbals; and a journal entry about the nonverbals they identified during conversations that week.

In Week 3, the main activities were to introduce holds as a sign of communication breakdown and teach participants how to recognize them during conversation. The tasks involved a narrated PowerPoint slides (13 minutes) focusing on the different types of hold movements, when they occur, and why they are important; three LimeSurvey-based perception activities using videos from CELFI where participants had to identify if a hold occurred, identify its onset and release, and the dynamic movements that were held; and a journal entry describing two holds they observed in their interactions that week.

In the final week, students practiced the perception and production of nonverbal behaviors, applying what they learned from the previous three units. The activities included watching a TEDx talk (13 minutes) on how to better use nonverbals to enhance communication skills; short-answer reflection questions on the main ideas from the video; a Zoom session with a research assistant (15 minutes) to engage in a discussion about business communication and practice identifying holds and initiating self-repair strategies in real-time; an asynchronous discussion with other participants through discussion board posts related to their interpretation of visual cues that appeared in various clips of television series; and a journal entry describing two scenarios where they practiced producing holds in their daily interactions.

### **Procedure**

After receiving certification of ethical acceptability for research involving human subjects from Concordia University (30014350), the researchers invited students enrolled in business communications classes to participate in the pretest activities by placing an advertisement in the university's course management system (Moodle). After providing consent

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and completing a background information form and pretest activities (45 minutes), participants indicated whether they were willing to (a) carry out similar activities approximately five weeks later or (b) take part in a 4-week project to learn more about nonverbal communication.

Participants who selected (a) only became the control group, and participants who selected both (a) and (b) formed the awareness-raising group. Participants in the awareness-raising group completed another consent form and then carried out the Moodle activities in cohorts consisting of three to 12 students starting at the same time. Cohorts were used to manage the number of students participating in the discussion boards each week. When a cohort completed the awareness-raising tasks, they were given a link to the posttest (30 minutes) along with an equal number of control group participants. Students in both the control and awareness-raising groups completed the posttest a mean of 41 days after the pretest ( $SD = 6.0$ ). Students in the awareness-raising group completed the posttest a mean of 5 days after the last pedagogical activities ( $SD = 2$ ).

## Data Analysis

Ratings of listeners' comprehension (out of 100) for the hold onset and release videos were exported from LimeSurvey. Rather than analyse the comprehension ratings for hold onsets and releases separately, we assessed the students' ability to differentiate between their unique visual signatures. Therefore, discrimination scores were obtained by subtracting the hold onset comprehension ratings (which should be lower) from the hold release comprehension ratings (which should be higher), separately for the pretest and posttest. Smaller discrimination scores indicated that the students assessed the listeners' comprehension similarly in both the hold onset and release videos, meaning that they did not distinguish nonunderstanding (signalled by a hold onset) from return to understanding (signalled by a hold release). In contrast, larger

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discrimination scores indicated that their ratings of hold onsets and hold releases reflected different degrees of listener understanding.

### Results

The research question asked whether awareness-raising activities helped business communication students would recognize holds as a signal of nonunderstanding, which was operationalized as the ability to discriminate between levels of listener comprehension associated with hold onsets and releases. Discrimination scores were calculated as the difference in listener comprehension for holds and releases at the pretest and posttest. As shown in Table 2, students in the control group had larger discrimination scores at the pretest than the posttest, which indicates that their ability to discriminate between hold onsets and releases decreased over time. In contrast, students in the awareness-raising group showed a gain of 10 points in their ability to discriminate between hold onsets and releases.

Table 2

*Hold Discrimination Scores by Time and Group*

Group	Pretest		Posttest	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Awareness-raising ( <i>n</i> = 31)	28.61	16.91	38.97	23.06
Control ( <i>n</i> = 33)	24.15	18.55	20.91	17.73

A mixed ANOVA with group (control, awareness-raising) as a between-participants variable and time (pretest, posttest) as a within-participants variable revealed no statistically significant main effect for time,  $F(1, 62) = 3.25, p = .076$ , partial  $\eta^2 = .07$ , but a statistically significant main effect for group,  $F(1, 62) = 6.63, p = .012$ , partial  $\eta^2 = .10$ , and a statistically significant two-way interaction,  $F(1, 62) = 11.86, p = .001$ , partial  $\eta^2 = .16$ . The post hoc tests

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examined how each group performed over time and showed that there was a significant increase in discrimination scores for the awareness-raising group ( $p < .001$ ,  $d = 3.00$ ) but no significant change for the control group ( $p = .243$ ,  $d = 0.18$ ). Based on benchmarks for applied linguistics research (Plonsky & Oswald, 2014), there was a large effect size (1.40 and above) for the awareness-raising group's increase in discrimination scores.

## Discussion

To summarize the findings, business communication students who participated in awareness-raising activities increased their ability to associate holds with nonunderstanding, specifically the ability to differentiate between hold onsets (i.e., the signal of nonunderstanding) and releases (i.e., the signal of a return to understanding). In contrast, students participating only in pretesting and posttesting, separated by approximately five weeks, showed no such increase in their ability to discriminate between hold onsets and releases. Taken together, these findings suggest that a relatively brief, self-access, computer-mediated intervention was successful at raising business communication students' awareness of holds as signalling both the beginning (i.e., onset) and the end (i.e., release) of nonunderstanding.

Defined as temporary cessation of all body movement whereby listeners briefly hold their facial expression or body posture fixed until a problematic utterance is resolved (Floyd et al., 2016; Seo & Koshik, 2010), holds (or freezes) were specifically targeted in this study as the focus of an awareness-raising intervention because they are a reliable cue to nonunderstanding for the listener (e.g., Groeber & Pochon-Berger, 2014; McDonough et al., 2019, 2022, 2023; Seo & Koshik, 2010). Compared to other visual cues associated with nonunderstanding, such as laughing and smiling (Matsumoto, 2018; Pitzl, 2010) and sustained eye gaze (Floyd et al., 2016), holds appear particularly salient to the listener not only because they are fairly unambiguous in

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their function but also because they combine multiple, simultaneous cues or perceptible body movements. For instance, the most attested hold configurations include those that involve either a head poke (i.e., forward head movement) or a whole body lean, both of which are frequently accompanied by scrunched, raised eyebrows, or smiling (Li, 2014; Kendrick, 2015; Seo & Koshik, 2010).

To expose business communication students to the most perceptible cues to nonunderstanding, we therefore included both head pokes and body leans produced in isolation and in combination with scrunched eyebrows, in the training and testing materials in this study. Against this backdrop, it is perhaps unsurprising that an intervention focusing on a salient, clear cue to nonunderstanding was successful at enabling business communication students to distinguish hold onsets (which mark the beginning of a nonunderstanding episode) from hold releases (which signal a return to understanding). As indicated by the discrimination scores for the control and awareness-raising groups (see Table 2), they had similar ability to distinguish between onsets and releases at the pretest. However, a four-week intervention amplified the discrimination abilities of the awareness-raising group. This is a noteworthy increase in discrimination ability with a large effect size, suggesting that the students in the awareness-raising group either developed a new or refined an already existing association between the form of a visual cue (onset vs. release of a hold) and its function (communication breakdown vs. resumption of understanding).

From a broader perspective, these positive outcomes of dedicated awareness-raising for holds, which is a visual cue that has not been targeted through training previously, extend previous literature on training in nonverbal communication provided to business students (Drury-Grogan & Russ, 2013; Peterson & Leonhardt, 2015) and to L2-speaking international students

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(Cheng, 2016; Hilliard, 2020). The present findings imply that business communication students can benefit from awareness-raising activities that highlight nonverbal aspects of communication and might be able to use this knowledge in their future language use. For example, in a debrief survey, students commented on the benefits of this training for their future careers as illustrated by the following quotation:

This training has allowed me to realize that our nonverbal cues speak louder than our verbal cues. This realization has taught me to be more aware of my own nonverbal cues in business communications, as this might shape how others see me. With the ability to more clearly identify nonverbal nonunderstanding cues, this will allow me to communicate more effectively in the business world as I can better read the recipients understanding and adjust accordingly to get my message across.

Besides remarking on its relevance for business communication, students also pointed out that the training led to increased awareness in their daily interactions, such as “I like how applicable the information we learned was to our everyday lives; in daily conversations, I now consider what others might be telling me via their body language (looking out for holds that might indicate some sort of communication breakdown).” In sum, holds appear to be a conversation-friendly signal of nonunderstanding that allows interlocutors avoid the uncomfortable position of having to ask for clarification verbally and maintain agency through self-repair (Kaur, 2011; Mauranen, 2006; Pietikäinen, 2018).

In terms of the implications of these findings to practice, we showed that L2-focused materials—rather than those reflecting L1-speaker performance—can serve as both relevant and accessible learning activities about nonverbal aspects of communication for linguistically and

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culturally diverse business communication students. As mentioned in the literature review, holds have been attested in conversations involving speakers from a wide variety of language and cultural backgrounds; therefore, we assumed that the awareness-raising activities had potential benefits for all students regardless of their status as an L1- or L2-English speaker. To confirm that assumption, we carried out a post-hoc analysis by running the mixed ANOVA again with L1 background included as a second between-groups variable. None of the main or interaction effects for L1 background were statistically significant (see Appendix for statistical output). Just as awareness-raising activities using videotapes of L2 English speaker discussions have been used to teach disagreements to other L2 speakers (Cheng, 2016), our findings suggest that L2 interactions can be used effectively to help all students enrolled in disciplinary courses—regardless of their linguistic background—acquire knowledge about the visual cues associated with nonunderstanding.

Although some students may find it cognitively overwhelming to monitor both verbal and nonverbal communication cues, as documented by Tian and McCafferty (2021) in their case study of Chinese international students' gesture awareness and use at an American university, our awareness-raising activities incorporated silent videos to help students focus on the visual elements separately, which may be a useful approach. Of course, in natural conversation, speech and gesture co-occur, but isolating each aspect before integrating them might be a useful pedagogical approach for students who find it too demanding to attend to both elements of communication simultaneously at first. Another pedagogical concern is that some students may not wish to incorporate nonverbal cues from the target language into their own speech because they do not believe that they have mastered them fully or may not feel comfortable with them. To sidestep this concern, our pedagogical intervention emphasized awareness at the level of

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recognition rather than production, which is particularly valuable when students are speakers (since they can realize that listeners are producing a hold) even if they do not wish to produce holds themselves when acting as listeners (and could instead use a verbal means of signalling nonunderstanding).

### **Limitations and Conclusion**

Even though this study was successful at demonstrating positive effects of nonverbal communication training on business students' ability to recognize holds as a signal of nonunderstanding, evidence of training effectiveness was reported only on an immediate posttest, administered approximately five days following the end of the training. It would be important to demonstrate whether the learning benefit persists over time or whether additional activities are needed to maintain possible gains. Even more importantly, it would be critical to show whether focused instruction not only results in students' ability to recognize various nonverbal cues, which was the goal of the awareness-raising intervention, but also leads to their active use of such cues in conversation in academic, professional, and personal contexts. Similarly, the materials included in the intervention targeted only visual cues of nonunderstanding, and specifically holds, which is a narrow focus that may have amplified the effectiveness of the intervention. Nevertheless, to encompass various other nonverbal behaviors as well as socio-affective and interpersonal skills, such as giving and receiving feedback, backchanneling, providing self-repair, and recognizing speaking or interpersonal discomfort and anxiety, a broader scope of materials may need to be included in future awareness-raising interventions.

Due to the global pandemic, all awareness-raising activities in this study were necessarily restricted to the asynchronous mode of delivery and conducted online. Although our findings

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highlight the usefulness of self-access, online, asynchronous learning modules for training on nonverbal communication skills, we recognize that the intervention may have been more useful to students in an in-person format. Future work could compare the relative effectiveness of online versus face-to-face activities. In a similar vein, future research could expand training-focused research from students enrolled in disciplinary coursework to include various other participant groups, such as L2 teachers, healthcare workers, or civil servants whose daily tasks involve communication with speakers from various language and cultural backgrounds. Clearly, the ability to interpret and act on visual signals of nonunderstanding would be useful for these professionals. Even though weekly journal activities elicited students' self-report of their interactions during the week, as a way of raising students' awareness of the targeted nonverbal feature for each week, we had no access to students' actual interactions outside instruction. They may find it challenging to monitor listeners' nonverbal behavior during real-time conversation, so additional research is necessary to determine whether they can transfer their awareness of holds to actual interactions. Future research could record students' interactions, using such recordings or transcripts for further reflection and awareness raising so students could watch or listen to the recordings of their own performance, reflect on their use of nonverbal cues, and track potential changes in their use over time (Hilliard, 2020; Tian & McCafferty, 2021). Finally, these business communication students had opportunities to voluntarily participate in the study and indicate willingness to do the awareness-raising activities. Consequently, future research is needed to explore the effectiveness of the activities in business classes where nonverbal communication is part of the regular curriculum.

In summary, despite the shortcomings discussed above, the online awareness-raising intervention was effective at helping business communication students recognize a salient visual

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cue of nonunderstanding. Looking forward, we aim to further explore the effectiveness of nonverbal communication activities that target a wide range of visual cues associated with key interactional and pragmatic features of conversation. By combining awareness-raising with real-world interactions, these future interventions can not only promote recognition but also help students deploy visual cues when interactionally relevant in a wide range of contexts. Given the importance of communication skills in the workplace, it is important for students of business communication and other disciplines to have working knowledge and familiarity with nonverbal features of interaction.

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## Appendix

### Statistical Output for Mixed ANOVA with L1 background

This appendix provides the statistical output for the post-hoc mixed ANOVA with time (pretest/posttest) as a within-groups variable, group (awareness-raising/control) as a between-groups variable, and L1 background (L1 English/L2 English) as a between-groups variable.

None of the main or interaction effects for L1 background reached statistical significance:

- Main effect for L1 background:  $F(1, 60) = 0.35, p = .559, \text{partial } \eta^2 = .01$ .
- Interaction between time and L1 background:  $F(1, 60) = 3.53, p = .065, \text{partial } \eta^2 = .06$ .
- Interaction between group and L1 background:  $F(1, 60) = 1.02, p = .316, \text{partial } \eta^2 = .01$ .
- Interaction between time, group, and L1 background:  $F(1, 60) = 0.44, p = .512, \text{partial } \eta^2 = .02$ .