Repetition and Focus on Form in Processing L2 Spanish Words: Implications for Pronunciation Instruction

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Situated in the context of learning second language (L2) pronunciation, this article discusses from information-processing and pedagogical perspectives the role of repetitive practice with L2 input and of explicit focus on its form-related (phonological) properties. First, we report the results of an auditory word-priming experiment with 60 L2 learners of Spanish varying in degree of L2 pronunciation accuracy; these results suggest that both repetition and focus on form have measurable benefits for processing L2 speech. Next, we discuss these findings in terms of information processing and its relationship to L2 pronunciation teaching. Finally, we describe a communicative framework for teaching L2 pronunciation that is compatible with the outlined information-processing principles, that is, a framework that includes meaningful repetition and form-focused activities within a communicative context.

THERE IS CLEARLY NO SINGLE PATH TO BEcoming skilled in any cognitive task, and learning to perceive and produce the sounds (phonology) of a second language (L2) like native speakers of that language is no exception. According to a recent survey of L2 pronunciation teaching practices in a North American context (Breitkreutz, Derwing, & Rossiter, 2001), pronunciation instruction is characterized by variety in the methodologies used, items taught, and learner strategies emphasized. Although such diverse approaches may not be equivalent to one another in terms of how well they result in spontaneous, native-like L2 speech (Derwing, Munro, & Wiebe, 1998), they nevertheless illustrate the assumptions theorists have made about L2 pronunciation learning.

A comparison of two pronunciation tasks will suffice to identify at least two of these assumptions. In one task, focusing on English /ʊ/ (Rivers & Temperley, 1978), learners first identified the sound (e.g., in *book*), then imitated it in a phrase (*in the book*), then produced it following a prompt (*My book is on the desk*), and finally embedded the sound in autonomous production (*My book is at home)* in response to a question (*Where is your book?*). In the other task, targeting the falling pitch movement in English declarative sentences (Laroy, 1995), learners, upon being instructed on the falling pitch movement using hand gestures and drawings, practiced its production first in individual nonsense and real words, then in phrases and sentences.

Differences in publication dates aside, implicit in these two tasks are distinct assumptions about how L2 pronunciation is learned: The first suggests the importance of repetition or pattern practice (Paulston, 1971), whereas the second underscores the need for explicit attention to linguistic features in the input (Long, 1991) to promote native-like L2 pronunciation. The objective

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of this article is to discuss the role of these factors in learning L2 pronunciation from information-processing and pedagogical perspectives. In particular, this article first reports the results of experiments investigating whether listeners benefit from repeated experiences with spoken L2 input and whether such benefits depend on listeners' attention to such input. After discussing the experimental findings in terms of information processing, this article then presents a communicative framework for teaching L2 pronunciation, one that combines repetition with explicit attention to input in a communicative context.

LEARNING L2 PRONUNCIATION

Repetition

It is well known that repetitive practice increases speed and efficiency in performing cognitive skills (Schneider & Chein, 2003). In fact, there is some evidence that intensive perception (input) training in which learners are exposed to multiple repeated instances of L2 sounds leads to improvements in L2 phonetic perception and production (see, e.g., Bradlow, Pisoni, Akahane-Yamada, & Tohkura, 1997). However, the role of repetitive practice in promoting more accurate L2 pronunciation has largely been unexplored. At least one reason for this lack of attention to the importance of repetition in L2 teaching is that repetition is often viewed as being incompatible with meaningful communication (Harmer, 1982) and is therefore seen to have little or no beneficial effects on L2 development.

Two recent studies have challenged the view that repetitive practice has little effect on L2 development. Gass, Mackey, Alvarez-Torres, and Fernández-García (1999) showed that L2 learners' previous repeated experience with a task (an online description of a video episode) resulted in improved overall proficiency, grammatical accuracy, and lexical complexity in their later performance on the same task. More recently, Jensen and Vinther (2003) found that L2 learners' exposure to three repetitions of each utterance in dialogues led to improved comprehension, phonological decoding strategies, and grammatical accuracy in a subsequent elicited imitation task. In both studies, the learning gains were attributed to the beneficial effect of repetition on learners' processing capacity. That is, learners' familiarity with linguistic content in a repeated task (Gass et al., 1999) and their repeated experience with utterances in dialogues (Jensen & Vinther, 2003) extended their contact with the language, freeing up processing resources and thereby allowing them to attend to form-related properties in the input and output.

Although these studies have established that repeated practice—notably, practice involving repeated tasks or repeated sentences—leads to learning gains, they have not directly measured repetition-based processing benefits, particularly those specific to the processing and learning of L2 speech. This study attempted to do so in an investigation of learners' sensitivity to repeated phonological information in L2 speech. If learners are sensitive to repeated phonological information, then this sensitivity should have measurable consequences on their speech processing, including, for example, faster (and perhaps more efficient) processing of repeated as opposed to unrepeated aspects of L2 speech. The first objective of this study was thus to examine if L2 learners—those who are better at learning L2 phonology and those who are worse at it—benefit from repeated experience with L2 speech. A finding that repetition has a measurable benefit for L2 speech processing would clarify the processing bases of pronunciation learning and would validate those approaches to pronunciation teaching that include repetition.

Form-Focused Instruction

For over a decade, research on language training that overtly emphasizes linguistic or form-related features of the input in the context of meaningful communication has been central to the study of language learning (see Doughty & Williams, 1998, for review). The goal of this training, termed *form-focused instruction*, is to draw learners' attention to a particular problematic linguistic feature, offering learners an opportunity to "notice" this feature in the input. Attending to a particular form-related feature thus increases the likelihood that learners will perceive the discrepancy (the gap) between the linguistic feature in the input and their own (often nontarget-like) conception of it (Schmidt, 1990).

Several instructional techniques promoting learners' attention to form-related features in L2 input have been used (directly or indirectly) to teach pronunciation. These have included explicit explanation (Derwing et al., 1998), recasts (Lyster, 1998), metalinguistic feedback (Hardison, 2004), and input practice (Bradlow et al., 1997). All these techniques have been shown to lead to improved performance on several pronunciation measures. Derwing, Munro, and

Wiebe (1997), for instance, found improved intelligibility and comprehensibility and reduced accentedness in sentences spoken by learners after explicit instruction focusing on good speaking habits (voice quality, speech rate, suprasegmentals). This type of instruction, but not one focusing on segmentals, was later shown to translate into learners' closer approximations of native-like spontaneous L2 speech (Derwing et al., 1998). Intensive form-focused training in perception and production of sounds (Bradlow et al., 1997) and sentences (Hardison, 2004) was likewise shown to yield learning gains. Similarly, in a study of corrective-feedback techniques, Lyster (1998) reported a high incidence of recasts (teacher's reformulations of students' incorrect utterances), a technique that presumably promotes noticing by the learner, leading to learners' correction of their own pronunciation errors.

Although revealing the important form-focusing function of several techniques for teaching L2 pronunciation, these findings do not indicate the effect of focus on form on L2 speech processing. One possibility is that focus on form sustains and, in fact, magnifies form-based processing benefits. That is, explicit attention to phonological properties of L2 speech may allow learners to notice and eventually learn such properties, translating (in processing terms) into faster and perhaps more efficient processing of L2 speech. Another possibility is that an instructional focus that is opposite to focus on form—that is, focus on meaning—may diminish form-based processing benefits. Assuming that focus on meaning represents a typical and perhaps a more natural information-processing strategy (VanPatten, 1990), this processing strategy may hinder learners' noticing and learning phonological properties of L2 speech (see Barcroft & VanPatten, 1997), leading to little or no benefits (e.g., conceptualized as increased processing speed or greater accuracy) in L2 speech processing. The second objective of the present study was thus to examine if L2 learners—those who are better at learning L2 phonology and those who are worse at it—benefit from form-related phonological information in L2 speech in two situations: when learners attend to the form versus when they attend to the meaning of L2 speech. If focus on form has a positive effect on L2 speech processing, then learners should be sensitive to and benefit from L2 phonological information. In contrast, if focus on meaning has a negative effect on L2 speech processing, then no such sensitivity or benefits should be obtained. Understanding such form-processing versus meaning-processing biases is important for developing processing models of form-focused instruction and in conceiving teaching materials that accommodate learners' processing strategies (VanPatten, 1996).

Auditory Word Priming

Investigating whether and how repetition and focus on form may relate to L2 speech processing clearly requires an appropriate methodology. Auditory word priming exemplifies one such methodology. In a typical auditory word-priming experiment, listeners are exposed to a set of spoken stimuli in a first task and are tested on another set containing both previously heard and new stimuli in a second task. In this second task, native listeners often demonstrate auditory word priming, a phenomenon of unconscious and unintentional processing facilitation, whereby they benefit from repeated (previously heard) linguistic material. For example, in the second task, native listeners either process more rapidly or identify more accurately, or both, words they have heard in recent experience (i.e., in the first task) than words they have not (Schacter & Church, 1992). This processing advantage has two important characteristics relevant for the study reported here. First, this processing advantage originates at the level of perceptual processing—that is, processing requiring a language user to rely on form-related, perceptual characteristics of verbal stimuli (Kolers, 1975). In other words, auditory word priming is indicative of listeners' sensitivity to the formal (as opposed to meaningful) properties of language. Second, this processing advantage is long-lasting, found to persist over delays of several weeks (Goldinger, 1996). That is, auditory word priming suggests that listeners appear to learn something about spoken word forms and to apply this knowledge to facilitate their future reprocessing.

Auditory word priming thus appears to be an ideal methodology for investigating the consequences that repetition and focus on form have on L2 speech processing. First, word-priming effects are repetition effects, indicative of listeners' sensitivity to form-related phonological information available in otherwise well-known words. If L2 learners are sensitive to repeated phonological information available in well-known spoken L2 words, they should demonstrate (repetition) priming effects, processing previously heard words faster than words not previously heard. Second, word-priming effects may be susceptible to attentional manipulations of processing form versus meaning (see Trofimovich,

2005). In other words, if focus on form has a positive effect on L2 learners' sensitivity to phonological information available in spoken L2 words, then learners should demonstrate priming effects when their attention, at the time of processing, is directed to form-related properties of L2 speech. Conversely, if focus on meaning has a negative effect on L2 learners' sensitivity to phonological information available in spoken L2 words, then learners should display no priming effects when their attention, at the time of processing, is directed to meaning-related properties of L2 speech. Finally, word-priming effects represent quantifiable processing benefits arising from repeated phonological information, benefits that can be compared across several participant groups with varying L2 pronunciation accuracy. If learners' sensitivity to phonological information in L2 speech is related to pronunciation accuracy, then learners with greater accuracy should show greater effects. This predicted result assumes, of course, that higher pronunciation accuracy is associated with greater sensitivity to phonological information in L2 speech.

To summarize, the experiments reported here had two objectives. The first objective was to examine if L2 learners benefit from repeated experience with form-related (phonological) information available in L2 speech, as a function of their pronunciation accuracy. The second was to determine if L2 learners do so in situations when they attend to the form or to the meaning of L2 speech, again as a function of their pronunciation accuracy. Learners' sensitivity to repeated phonological information was examined in Experiment 1. The effect of form-focused versus meaning-focused processing on this sensitivity was examined in Experiment 2.

EXPERIMENT 1

Participants

The participants were 20 learners of Spanish (13 females and 7 males). All were college-age native speakers of English enrolled in a third semester (low–intermediate) course at the University of Illinois at Urbana-Champaign. The participants were assigned to two groups based on their pronunciation accuracy in Spanish: participants with relatively high ($n = 10$) accuracy, and participants with relatively low ($n = 10$) accuracy. The participants' accuracy was established in a rating task in which they spoke Spanish extemporaneously, responding to the experimenter's questions. The responses were audiorecorded and rated for degree of foreign accent by 10 judges, who were native Spanish speakers (7 females and 3 males), using a 9-point scale (1 = *heavy foreign accent*, 9 = *no foreign accent*). Table 1 presents the participants' characteristics, including their age at the time of testing, age of first exposure to (classroom) L2 input, and number of semesters of Spanish instruction prior to testing. High-accuracy participants received significantly higher ratings than low-accuracy participants, $t(18) = 6.09$, $p < .001$.

Materials

The materials consisted of two sets of 72 words, one in English and the other in Spanish. No translation equivalents or cognates were used. The English and Spanish words did not differ statistically in syllable length, word duration, or word frequency (Juilland & Chang-Rodríguez, 1964; Kučera & Francis, 1967) and were all familiar to the participants, as determined in a word translation task. The English and Spanish stimulus words were recorded (using Tascam DA-P1 tape recorder and Shure SM10A microphone) by six native English speakers from the United States and six native Spanish speakers from Spain (three males and three females in each group). The recorded words were digitized at 16 kHz, ramped off during the first and last 15 milliseconds to eliminate audible clicks, and normalized for peak intensity and perceived loudness.

The 72 English and 72 Spanish words were further divided into four sets of 36 words for which 6 words were randomly chosen from each speaker, with each speaker thus contributing 6 words to each set. In each language, the two sets of 36 words were used to construct four study–test list pairs. Each pair contained a 36-word study list and a 72-word test list. The test list included the entire list of study words (36 repeated words) and a list of test words (36 unrepeated words). Half

TABLE 1
Means (Standard Errors) for Participant Characteristics in Experiment 1

	Pronunciation Accuracy	
Measure	High	Low
Chronological Age in Years	19.6 (.30)	19.7 (.32)
Age of Learning Onset	14.2 (.30)	14.1 (.49)
Semesters of Spanish Before Testing	6.0 (.58)	7.0 (.60)
Foreign Accent Rating[a]	4.8 (.36)	2.5 (.12)

Note. [a]Measured from 1 (*Heavy foreign accent in Spanish*) to 9 (*No foreign accent in Spanish*).

the repeated words in the test list were spoken by the same speaker as in the study list, and half were spoken by a different speaker. (The speaker's voice was not examined as a variable here.) Each word appeared equally often in the study and test lists.

Procedure and Data Analysis

The testing lasted about 1 hour and was conducted individually by the first author in a quiet room using a personal computer. The participants were seated at a desk with two loudspeakers positioned in front of them. The experimenter gave instructions in English. In the first phase of the experiment, the study phase, the participants listened to 46 words (36 study words, 10 fillers) presented with a 5-second interstimulus interval (ISI). They subsequently engaged in a 3–4 minute distractor task in which they performed simple arithmetic problems printed on a sheet. The purpose of this task was to clear the participants' short-term memory and to allow some time to pass before the next phase of the experiment. Immediately following the study phase came the test phase of the experiment, conducted in the same language as the preceding study phase. An immediate repetition task (Onishi, Chambers, & Fisher, 2002) was used in this phase to estimate auditory word priming. In this task, the participants listened to 80 words (72 test words, 8 fillers) presented with a 5-second ISI and were instructed to repeat each word as rapidly and as accurately as possible. Their responses were audiotaped. In the remainder of the session, the participants carried out the study and the test phases of the experiment, including the distractor task, in the other language. The testing order (English, Spanish) and participant assignment to the four study–test list pairs were counterbalanced across the participants. (See Trofimovich, 2005, for a detailed description of the stimuli and the procedure used.)

The dependent variable was response latency, defined as the length of time (in milliseconds) between the offset of the stimulus word and the onset of the participant's response (repeating of the word). Assuming response latency provides a measure of processing time (Sternberg, 1966), a comparison of response latencies for repeated versus unrepeated words can help determine the extent to which repeated words are processed faster than unrepeated words, thus revealing the participants' sensitivity to repeated information. Response latencies were measured by the first author directly from the waveform display of speech-analysis software (*CoolEdit 2000*), using the audiotaped recordings of the participants' responses.

Results and Discussion

For all analyses reported below, the alpha level for significance was set at .05; the effect sizes reported below are *partial eta squared* (η_p^2), calculated by dividing the effect sum of squares by the effect sum of squares plus the error sum of squares. The response-latency data were submitted to a three-way analysis of variance (ANOVA), performed using SPSS, with pronunciation accuracy (high, low) as a between-participant factor, and language (English, Spanish) and repetition (repeated, unrepeated) as within-participant factors. This analysis yielded significant main effects of accuracy, $F(1, 18) = 6.39$, $p < .025$, $\eta_p^2 = .26$, language, $F(1, 18) = 12.98$, $p < .01$, $\eta_p^2 = .42$, and repetition, $F(1, 18) = 31.41$, $p < .001$, $\eta_p^2 = .64$, but there were no significant interactions (see Table 2).

These findings indicate that the high-accuracy learners were overall significantly faster at initiating the production of all words (both repeated and unrepeated) than were the low-accuracy learners, that all learners were overall significantly faster at initiating production in English than in Spanish, and that all learners were significantly faster at initiating the production of repeated words than of unrepeated words (thus demonstrating word-priming effects). For ease of graphical presentation of the results, mean-priming effects (mean response latency for repeated words subtracted from mean response latency for unrepeated words), which represent the amount of processing facilitation obtained, were calculated for each group and are plotted in

TABLE 2
Mean Response Latencies in Milliseconds (Standard Errors) for Repeated and Unrepeated Words in English and Spanish as a Function of Learner Pronunciation Accuracy

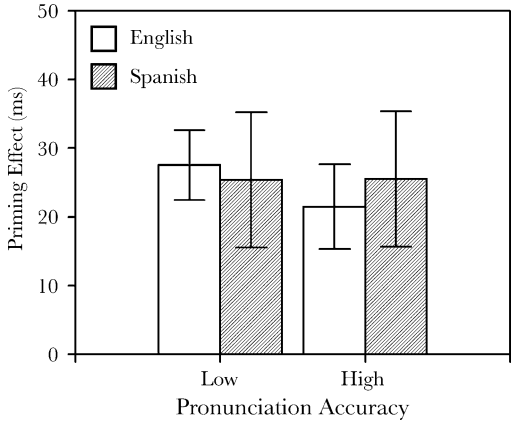
	Pronunciation Accuracy	
Words	High	Low
	English	
Unrepeated	214 (40.2)	278 (18.3)
Repeated	193 (37.0)	250 (17.1)
	Spanish	
Unrepeated	306 (40.8)	405 (25.8)
Repeated	281 (34.7)	379 (24.2)

Figure 1 (the higher the bar, the more processing facilitation).

The objective of this experiment was to determine whether learners were sensitive to repeated spoken L2 words. The results reveal such sensitivity in the learners' native language (L1), which served as a baseline for comparison purposes, and in their L2. This finding held true regardless of the fact that the learners were overall slower in Spanish (their L2) than in English. Results also indicated that this sensitivity did not differ for high- and low-accuracy learners although the low-accuracy learners overall processed words less rapidly than the high-accuracy learners. Assuming that response latency provides a measure of processing time (Sternberg, 1966), this finding suggests that spoken words encountered in recent experience are processed faster than words not encountered in recent experience and that low- and high-accuracy learners (at the low–intermediate overall proficiency level) both benefit from prior experience with L1 (Schacter & Church, 1992) and L2 spoken words.

Although the findings of Experiment 1 indicate that learners are sensitive to repeated L2 phonological information, they do not reveal whether learners are sensitive to such information in other processing tasks, especially those emphasizing form and meaning properties of L2 input. Indeed, the processing task in Experiment 1 did not require learners to attend to either the form or the meaning of words beyond the simple instructions to listen to them. However, language processing, including that typical of L2 learning contexts, normally requires attention to both the form and meaning of L2 input (VanPatten, 1990). Experiment 2 therefore addressed whether high- and low-accuracy learners demonstrate differential sensitivity to repeated L2 phonological information under the instructions to attend to meaning versus form of spoken L2 words.

FIGURE 1
Mean Priming Effects in English and Spanish as a Function of Learner Pronunciation Accuracy.



Note. Brackets enclose ± 1 standard error.

EXPERIMENT 2

Participants

The participants were 40 learners of Spanish (24 females and 16 males) drawn from the same participant pool as in Experiment 1. They were randomly assigned to two groups of 20, with each group representing one of the two experimental conditions: (a) focus on form (FonF) and (b) focus on meaning (FonM). Within each condition, the participants were further assigned to two groups based on their Spanish pronunciation accuracy (high or low), with 10 participants in each group (see Table 3). The participants' accuracy was established in the same test used in Experiment 1. The high-accuracy group received significantly higher ratings for accuracy than the low-accuracy group in the FonF, $t(18) = 4.62$, $p = .001$, and the FonM, $t(18) = 8.26$, $p = .001$, conditions.

TABLE 3
Means (Standard Errors) for Participant Characteristics in Experiment 2

	Pronunciation Accuracy			
	Focus on Form		Focus on Meaning	
Measure	High	Low	High	Low
Chronological Age in Years	20.1 (.65)	19.3 (.26)	21.6 (1.1)	19.3 (.19)
Age of Learning Onset	12.9 (.93)	14.1 (.62)	13.7 (.28)	14.3 (.39)
Semesters of Spanish Before Testing	6.0 (.70)	8.0 (1.7)	7.0 (.49)	6.0 (.54)
Foreign Accent Rating[a]	4.8 (.40)	2.8 (.16)	4.5 (.24)	2.3 (.10)

Note. [a]Measured from 1 (*Heavy foreign accent in Spanish*) to 9 (*No foreign accent in Spanish*).

The high- and low-accuracy groups in both conditions received ratings similar to those of the high- and low-accuracy groups in Experiment 1, respectively ($p > .05$).

Materials

This experiment used the same materials as Experiment 1.

Procedure and Data Analysis

The procedure in this experiment was also the same as in Experiment 1, with one exception. In the study phase, depending on the condition (FonF or FonM), the participants performed a task to orient their attention during processing to either the form or meaning of the spoken words. In the FonM condition, they rated the perceived degree of pleasantness evoked by each word on a 7-point scale (1 = *word meaning is unpleasant*, 7 = *word meaning is pleasant*). In the FonF condition, they rated the perceived degree of clarity with which each word was enunciated on a 7-point scale (1 = *word does not sound clearly enunciated*, 7 = *word sounds clearly enunciated*). Used in studies investigating depth of (semantic) processing (e.g., Schacter & Church, 1992), instructions to rate word pleasantness increase the likelihood that language users access word meaning during processing (hence, FonM). Instructions to rate word clarity (e.g., Church & Schacter, 1994), by contrast, increase the likelihood that learners attend to more superficial auditory (phonological) characteristics of words (hence, FonF). In both conditions, words were presented with a 5-second ISI. The dependent variable, data measurement procedures, and statistical analyses in this experiment were the same as in Experiment 1.

Results and Discussion

The response-latency data were submitted to a four-way ANOVA with focus (FonF, FonM) and pronunciation accuracy (high, low) as between-participant factors, and language (English, Spanish) and repetition (repeated, unrepeated) as within-participant factors. This analysis yielded significant main effects for language, $F(1, 36) = 22.29$, $p < .001$, $\eta_p^2 = .38$, and repetition, $F(1, 36) = 13.46$, $p < .01$, $\eta_p^2 = .53$, and a significant four-way interaction, $F(1, 36) = 7.50$, $p < .01$, $\eta_p^2 = .17$. This interaction was further examined as follows. The data from the FonF condition were submitted to a three-way ANOVA with accuracy as a between-participant factor and language and repetition as within-participant factors. This analysis yielded only significant main effects for language, $F(1, 18) = 13.20$, $p < .01$, $\eta_p^2 = .42$, and repetition, $F(1, 18) = 43.11$, $p < .001$, $\eta_p^2 = .71$. These findings suggest that the participants in the FonF condition were overall significantly faster at initiating word production in English than in Spanish and that they were overall significantly faster at doing so for repeated versus unrepeated words, in both languages. In other words, auditory word-priming effects were found in the FonF condition for all learners (high- and low-accuracy) in both languages.

The data from the FonM condition were submitted to a similar three-way ANOVA that yielded significant effects for language, $F(1, 18) = 10.95$, $p < .01$, $\eta_p^2 = .37$, and repetition, $F(1, 18) = 11.12$, $p < .01$, $\eta_p^2 = .38$, and a significant three-way interaction, $F(1, 18) = 7.62$, $p < .025$, $\eta_p^2 = .30$. A follow-up to this interaction, using a two-way ANOVA, yielded a significant repetition × language interaction effect only for the low-accuracy group, $F(1, 9) = 4.44$, $p < .05$, $\eta_p^2 = .33$. Latencies for the low-accuracy group were significantly faster for repeated than for unrepeated words in English, but not in Spanish. In contrast, a similar follow-up analysis with the data from the high-accuracy group revealed a significant repetition effect, $F(1, 9) = 11.56$, $p < .01$, $\eta_p^2 = .56$, but no interaction effect (see Table 4).

These findings reveal that the participants' performance in the FonM condition depended on their level of pronunciation accuracy. The high-accuracy group was significantly faster at initiating word production in response to repeated than to unrepeated words in both English and Spanish; the low-accuracy group, however, was significantly faster at doing so only in English. As in Experiment 1, the mean-priming effects, calculated to depict graphically the amount of processing facilitation for each group in each condition, are plotted in Figure 2. In sum, repetition effects were found in all conditions, except in Spanish for the low-accuracy group that focused on meaning.

The objective of this experiment was to determine the effect of FonF and FonM on learners' sensitivity to phonological information in repeated spoken L2 words. The results reveal that FonF did not affect learners' sensitivity to repeated L1 or L2 phonological information and that FonM eliminated such sensitivity in the L2 for the low-accuracy learners. That is, the high-accuracy learners benefited from repeated experiences with spoken words in both languages whether or not they attended to their meaning or form. In contrast, the low-accuracy learners did

TABLE 4
Mean Response Latencies in Milliseconds (Standard Errors) for Repeated and Unrepeated Words in English and Spanish as a Function of Processing Orientation and Learner Pronunciation Accuracy

	Pronunciation Accuracy			
	Focus on Form		Focus on Meaning	
Words	High	Low	High	Low
English				
Unrepeated	347 (50.8)	312 (39.9)	260 (43.3)	238 (36.8)
Repeated	312 (49.1)	302 (39.0)	240 (37.8)	219 (36.8)
Spanish				
Unrepeated	389 (37.2)	454 (46.2)	384 (41.7)	383 (31.2)
Repeated	364 (39.7)	432 (45.8)	349 (47.7)	382 (37.0)

so only in their L1; they did not benefit from repeated experiences with spoken L2 words under instructions to access word meaning (cf. the findings in Trofimovich, 2005, where learners' pronunciation accuracy was not manipulated as a variable).

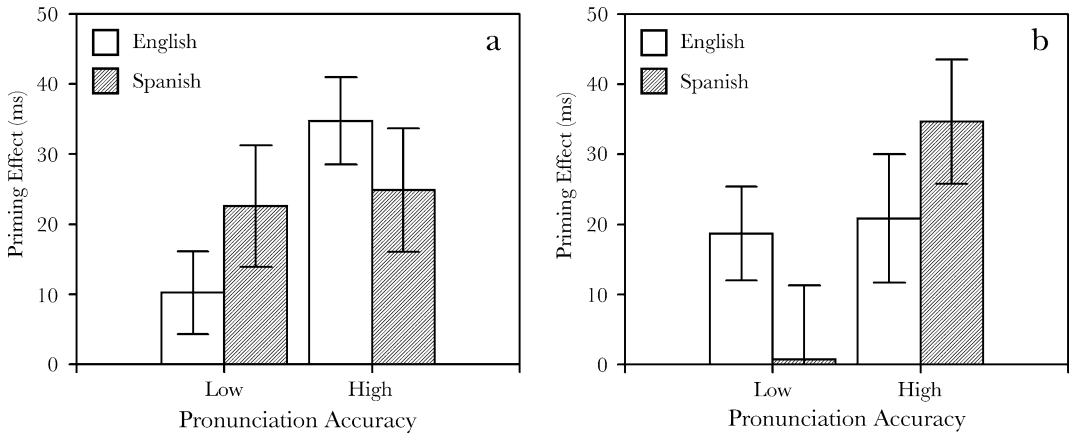
DISCUSSION

The results of this study reveal a complex relationship between learners' sensitivity to repeated L2 phonological information and their pronunciation accuracy (degree of foreign accent in L2 speech), as a function of task-specific attentional demands (either FonF or FonM). The results of Experiment 1 indicate that learners benefit from repeated L2 phonological information. The results of Experiment 2 suggest that this benefit may be minimal under instructions to attend to the meaning of spoken input, especially for low-accuracy learners. These findings invite the following three questions into the nature of the relationship among L2 speech processing, attention, and accuracy: (a) Why does FonM have a detrimental effect on L2 speech processing? (b) Why are low-accuracy learners more susceptible to this effect of FonM than are high-accuracy learners? (c) What are the pedagogical implications of this relationship? We address these questions in turn in the sections to follow.

Attentional Focus and L2 Speech Processing

At least one explanation for the effect of FonM (i.e., a semantic processing focus) on learners' sensitivity to repeated L2 phonological information may be found in analyses of word-priming effects in the visual modality. Semantic influences

FIGURE 2
Mean Priming Effects in English and Spanish as a Function of Learner Pronunciation Accuracy in the Focus on Form (a) and the Focus on Meaning (b) Conditions.



Note. Brackets enclose ± 1 standard error.

on word-priming effects have been documented in the visual modality in a variety of tasks: perceptual identification (Jacoby, 1983), word-fragment completion (Blaxton, 1989), and lexical decision (Levy & Kirsner, 1989). One common finding of these and other investigations is that priming effects, indicative of language users' sensitivity to form-related properties of words, depend on the degree of *contextual binding* of words in context. That is, the likelihood of priming effects increases as a word moves from being presented in a meaningful discourse, to being included in an incongruent context (i.e., in a situation where a word does not fit sensibly in a connected discourse), to being individuated in a word list (MacLeod, 1989).

Masson and MacLeod (2000) recently modified this contextual-binding explanation by proposing that the presence of word-priming effects depends on the degree of *distinctiveness* of the perceptual stimuli under study. According to this hypothesis, several circumstances may reduce the distinctiveness of form-related information, preventing this information from being encoded and responded to distinctively, thereby decreasing priming effects. Such circumstances may include those in which linguistic input is presented in units longer than individual words, for example, when input is embedded in phrases, sentences, or longer segments of connected discourse (Smith, 1991). Such circumstances may also include those in which linguistic input is manipulated during processing in a meaning-oriented, conceptual task, for example, translation from L2 to L1 (Heredia & McLaughlin, 1992), or in which linguistic input is presented rapidly, allowing for little processing time (Masson & MacLeod, 2000).

This account of priming effects suggests that perceptual distinctiveness, a likely determinant of processing benefits, may be achieved by enhancing (individuating) relevant linguistic input: by increasing the amount of listeners' experience with it or by drawing listeners' attention to its form-related properties. The priming effects obtained in this study were a likely consequence of individuating spoken words in word lists (in Experiment 1) and of drawing learners' attention to spoken word form (in the FonF condition in Experiment 2). In fact, these findings are in accord with previous reports of significant word-priming effects for individual words presented in word lists (Schacter & Church, 1992), for low-frequency (hence, potentially more noticeable) words embedded in a phrase (Nicolas, 1998), and for words read under instructions to attend to word form (Wippich & Mecklenbräuker, 1995).

This account of priming effects also suggests that, at least in an L2, a FonM may reduce spoken word distinctiveness. Apparently, a meaning-oriented processing focus diverts listeners' attention from form-related characteristics of spoken words (at least for low-accuracy learners), preventing word forms from being fully encoded and thus diminishing priming effects. In this respect, the effect of the semantic processing orientation on priming is akin to that imposed on word priming by a rapid presentation of words in lists (Masson & MacLeod, 2000) or by a presentation of words embedded in reading passages (Levy & Kirsner, 1989).

Learner Accuracy and L2 Speech Processing

Several factors may contribute to explaining why FonM reduced sensitivity to repeated L2 phonological information for low- but not for high-accuracy learners. One factor may be related to adult L2 learners' processing strategies. For example, unlike young children who extract their first words based on acoustic–phonetic properties of spoken words given ample native-speaker input (Gleitman, Newport, & Gleitman, 1984), most adult learners often acquire their L2 without sufficient native-speaker input and by learning semantic and conceptual aspects of L2 words concurrent with, or prior to, learning their perceptual and articulatory correlates. Thus, adult learners (low-accuracy learners in the experiments presented here) may process the available input for meaning before encoding the perceptual details of its form (VanPatten, 1996).

Another factor may be related to the inherent complexity of input and its elevated demands on processing resources. It is likely that L2 learners—and especially low-accuracy learners—have difficulty resolving subtle perceptual cues related to the form of L2 input, particularly in situations where input is complex and learning conditions are not ideal. For example, Rosenberg and Jarvella (1970) showed that listeners more readily relied on the meaning of spoken sentences than on their form when sentences were presented in noise. If this explanation is valid, then a meaning-based processing focus imposed on (low-accuracy) learners by a task may further capitalize on their already predominant strategy of processing input for meaning at the expense of form, reducing and even eliminating processing benefits that could have accrued at the level of form analysis in their L2.

Yet another factor explaining why these low-accuracy learners appeared to benefit less than

the high-accuracy learners from repeated phonological information available in spoken L2 words may be differences in low- and high-accuracy learners' short-term memory capacity. Indeed, low-proficiency learners (or those in beginning stages of L2 learning) often demonstrate impaired or greatly reduced short-term working-memory spans that improve as they gain more experience in their L2 (Chincotta & Underwood, 1998). An important causal relationship seems to exist between short-term working-memory capacity and listeners' ability to repeat (Papagno, Valentine, & Baddeley, 1991) and eventually learn (Gathercole, Willis, Emslie, & Baddeley, 1991) unfamiliar spoken words. Low-accuracy learners' limited short-term working-memory capacity may constrain the amount of perceptual detail they comprehend, promoting their reliance on semantic and conceptual processing of L2 input. If this explanation is valid, then there is an important relationship between learners' working-memory capacity and their ability to benefit from phonological information available in L2 speech (see O'Brien, Segalowitz, Collentine, & Freed, 2006, for evidence of a similar relationship between working memory and L2 fluency), a relationship to be explored in further research.

Pedagogical Implications

Although pedagogical implications of findings from a laboratory-based experiment investigating the processing of individual words may not be immediately obvious, it is nevertheless important to consider how language-processing research can inform L2 pedagogy. Understanding the pedagogical value of the findings reported here depends on establishing a link between processing of word forms in the input, on the one hand, and L2 learners' actual pronunciation outcomes, on the other. This link has been formalized in recent conceptualizations of language development (e.g., see MacWhinney, 1999, for a review) that view knowledge of phonological regularities of language (e.g., knowledge of phonotactic constraints) as an emergent property of lexical development (Beckman & Edwards, 2000). Lexical learning, according to this view, involves the learning of both the meanings of words and the phonological regularities in them.

If a language user's knowledge of phonology indeed represents, at least in part, "generalizations over the word-forms in the lexicon, which are in turn generalizations over speech" (Pierrehumbert, 2003, p. 180; see also Ellis, 2002), then acquiring such generalizations, in both the L1 and the L2, depends on efficient ways of processing speech in general and spoken words in particular. The findings of this study, cast within this theoretical framework, begin to describe the circumstances that facilitate such processing. That is, it appears that repeated experience with spoken L2 input coupled with learners' attention to its surface form would enable learners to extract important phonological regularities from the input, leading to accurate L2 perception and production (see Trofimovich, 2005, for further discussion). From this standpoint, then, seeking pedagogical implications for the findings reported here amounts to addressing at least two goals. The first goal is to exemplify how psycholinguistic research can relate to L2 pedagogy (see Segalowitz & Lightbown, 1999, for examples), particularly to instruction in L2 pronunciation. The second goal is to describe possible pedagogical practices engaging learners in speech processing that includes repetition and focus on form. The remainder of this article focuses on both these goals.

A PSYCHOLINGUISTIC APPROACH TO PRONUNCIATION INSTRUCTION

The results of the two reported experiments prompted the conclusion that sensitivity to repeated L2 phonological information may require an individualization of form-related properties in L2 input, at least for low-accuracy learners. From a psycholinguistic perspective, these findings are compatible with those conceptualizations of language processing that view human performance on language-processing tasks as determined by the nature of the processing operations involved in the study and the subsequent test phases of a learning task. In processing terms, the study phase of a learning task engages the processing operations responsible for the encoding of novel linguistic information. Its test phase engages the processing operations responsible for the retrieval of learned information.

The *transfer-appropriate-processing* (TAP) framework, which originated in experimental observations by Morris, Bransford, and Franks (1977), is one such conceptualization. In particular, the TAP framework postulates that a close match between the processing operations involved in the study and the subsequent test phases enhances (memory) performance due to a transfer or reinstatement of such operations between the two phases. For example, in an experiment examining bilinguals' memory for words, Durgunoğlu and Roediger (1987) demonstrated that bilinguals' performance on a perceptual test of memory (word-fragment completion task) depended little on the degree to which bilinguals engaged

in conceptual (elaborative) processing during the study. Instead, the bilinguals' performance depended on their prior experience with the perceptual characteristics of the words being studied. This superior memory effect was attributed to a match of the (perceptual) processing operations engaged in by bilinguals at the time of the study (reading words) and at the time of the test (completing word fragments).

The finding of this study that the FonF and FonM processing orientations imposed on (low-accuracy) learners by a learning task have different effects on L2 speech processing may be conceptualized within the TAP framework as a mismatch between information-processing demands on learners at the time of study and at the time of test. That is, in the FonM condition in Experiment 2, the learners were instructed to attend to the *meaning* of spoken words at the time of learning but were expected to demonstrate sensitivity to the *form* of spoken words at the time of testing. Apparent in this example is a discrepancy between processing requirements at the time of language learning and the time of use, a discrepancy that may explain the results we obtained (see also Durgunoğlu & Roediger, 1987).

A plausible pedagogical application of the TAP framework may involve creating and using tasks (and, on a larger scale, designing L2 learning contexts) that include comparable information-processing requirements at the time of language learning and the time of use. Examples of such psycholinguistically motivated learning contexts can be found in a communicative framework of L2 teaching offered by Gatbonton and Segalowitz (1988, 2005) and in Lightbown's (1998) conceptualization of form-focused instruction integrated in a communicative language classroom. The following section discusses how a communicative framework based on TAP principles can be applied to teaching L2 pronunciation in the context of communicative tasks involving repetition and focus on form.

A Communicative Framework for Teaching L2 Pronunciation

The communicative framework of L2 teaching offered by Gatbonton and Segalowitz (1988, 2005) exemplifies one conceptualization of communicative language teaching compatible with TAP principles. This framework—termed ACCESS (Automatization in Communicative Contexts of Essential Speech Segments)—involves an instructional process engaging the learner in activities that are genuinely communicative (involving an authentic need to exchange information), inherently repetitive (requiring repeated use of language to attain the task goal), and functionally formulaic (including language with high reuse potential in everyday interactions). The formulaic language used repetitively within a communicative exchange in ACCESS refers to the targeted set of L2 utterances (*essential speech segments*) that are elicited and practiced (hence, *automatization*) in genuinely *communicative contexts* so that they can be produced with greater accuracy and fluency. The genuinely communicative, inherently repetitive, and functionally formulaic requirements of ACCESS render this methodology most appropriate for the teaching of L2 pronunciation, which, as discussed above, should ideally include (besides a meaningful context) repetition and a focus on form. The following section demonstrates how ACCESS can be applied to L2 pronunciation teaching using as a template a lesson on two English intonation patterns. It also discusses psycholinguistic and pedagogical principles relevant to ACCESS implementation. (For a detailed discussion of ACCESS, see Gatbonton & Segalowitz, 2005.)

A Sample Pronunciation Lesson

The sample lesson designed for low–intermediate L2 learners of English (comparable in proficiency to the learners of Spanish in the study) focuses on the teaching of the rising and falling intonation patterns typical of English *Yes/No* (*Do you have the time?*) and Information (*What's the time?*) questions, respectively. (For a detailed description of the lesson, see the Appendix). ACCESS can be applied to teaching any pronunciation aspect, segmental or suprasegmental, of any language. The decision to illustrate ACCESS with a lesson on English as the target language (instead of Spanish) was motivated by the desire to demonstrate that this approach is applicable to another language. We chose to illustrate ACCESS with a lesson on English intonation (as opposed to segmentals, for example) because of the importance of suprasegmentals in L2 pronunciation learning (Derwing et al., 1998).

Following the format of any ACCESS lesson, the sample lesson begins with the Creative Automatization Phase, which includes a pretask and a main task. The goal of the pretask, a short communicative activity, is to ascertain that learners possess the needed range of targeted utterances (here, instances of *Yes/No* and Information questions), and, if learners do not succeed in producing these, to assist them in acquiring such utterances. The goal of the following main task is to engage learners in a task that is genuinely communicative,

inherently repetitive, and functionally formulaic. The communicative nature of the main task (and, in fact, of any ACCESS task) resides in two requirements: (a) that learners exchange new information, a criterion typical of communicative tasks in general, and (b) that they genuinely need the information sought.

In the sample lesson, the learners are given two goals (see Appendix). First, they must survey each peer about his or her computer use and needs and, based on the information gathered, create a profile of the computer use and needs for the entire class. Second, using the completed class profile, they must agree on a computer system to purchase for the class using an allocated sum of money. In completing the first goal (doing a survey), the learners seek and receive information that is not just new (they cannot anticipate each peer's responses) but also necessary (they need the information to create the class profile), attesting to the genuinely communicative nature of the task. This task also requires learners to ask similar questions as many times as there are learners in the class because the profile is complete only when everyone's information is received. The task is also therefore inherently repetitive. Finally, the utterances learners would use throughout the task (e.g., *Do you have a computer? What kind do you have?*) are obviously dictated by the nature of the task. Nevertheless, these utterances are not specific to the task; they are applicable to any context outside the classroom, in interactions about any object, not necessarily a computer. Thus, this task meets the formulaicity requirement of ACCESS.

The middle part of an ACCESS lesson is the language consolidation phase, the goal of which is to draw learners' attention to erroneous or dysfluent utterances from the earlier phases of the lesson. The tasks in this phase involve communicative fluency and accuracy exercises as well as form-focused instruction. Within ACCESS, form-focused instruction typically involves an inductive discovery task, leading learners to notice the common and distinguishing features of the targeted pattern and to abstract from these features the rule governing it. In this sample lesson, learners would be given more opportunities to produce questions, practicing the intonation patterns they may not have mastered in earlier tasks. For example, the learners (working in pairs) would be shown images of two or three computers and be asked to compare their own computers to those depicted on the images (*Is this the computer you have? Would you like this computer? Which of these computers do you have?*). These same utterances would later be used in form-focused activities leading the learners to become aware of the intonation patterns of *Yes/No* and Information questions in English. This discovery task would be followed by activities that highlight the relevant form-related aspects of the targeted pattern, promote learners' awareness of such aspects, or offer focused practice of them (Swain & Lapkin, 1995; VanPatten, 1996). In fact, any form-focused activity belongs in this stage, as long as two conditions are respected: that the activity aims to improve learners' knowledge of the targeted utterances and that it utilizes utterances that learners used or attempted to use communicatively earlier in the lesson. In the sample lesson, such activities would involve either ear-training discrimination or identification exercises, or both, inviting learners to distinguish between intonation patterns by ear.

The final phase of an ACCESS lesson is the free communication phase designed to provide learners with practice of targeted utterances in an open, not necessarily predictable, context. In contrast to the creative automatization phase, where learners are constrained by the nature of the activity to a limited aspect of the topic (a restriction deliberately imposed to produce a predictable range of utterances), the free communication phase ensures that learners talk about the topic broadly and express ideas that are not necessarily predictable. In the sample lesson, this broad, spontaneous discussion would be accomplished by having learners, working in groups and using authentic brochures of different computer systems, decide which one the class should purchase, given its profile of computer use and needs, and make a recommendation for a purchase within the specified budget. In this task, the learners would be likely to produce and be exposed to a variety of questions with the targeted intonation patterns (e.g., *Do we need this computer? Why do you like this computer?*).

In sum, with its emphasis on genuine communication, need for repetition, focus on reusable utterances, and an overall goal of accuracy and fluency, ACCESS offers a plausible communicative methodology for implementing L2 pronunciation instruction, a methodology that allows both for restricted and free communication tasks and for form-focused activities within a single framework.

Psycholinguistic Bases of ACCESS

What are the psycholinguistic (processing) benefits of ACCESS, and how do these relate to the findings of the current study? As discussed earlier, ACCESS involves creating and using pedagogical

tasks that match information-processing requirements at the time of language learning and use, compatible with the TAP framework (Gatbonton & Segalowitz, 1988, 2005). The requirement that communication be genuine (in the sense of exchanging new and genuinely sought information) ensures that learners are motivated to create an elaborated mental context based on memories of the process of obtaining new information. Representations of the utterances spoken and heard become embedded in these memories at the time of learning. At a later time, when the learned utterances are required in a new communicative situation, the mental state elicited will strongly resemble one existing during the original learning activity, serving as a retrieval route for accessing the learned utterances. In the sample lesson, both situations share such features as asking about experiences with purchased objects, evaluating their advantages, coordinating information received from other interlocutors, and so on. Such pedagogical activities provide for learning under TAP conditions, which are known to facilitate memory retrieval (Roediger & Guynn, 1996).

ACCESS offers yet another processing benefit relevant to teaching L2 pronunciation. The requirement that communication involve repeated use of formulaic language ensures that learners experience numerous repetitions of reusable utterances, promoting cognitively more efficient information processing in perception and production (Schneider & Chein, 2003). Repeated experiences with formulaic utterances also increase the likelihood that learners will notice the relationship between the form and function of utterances (Jensen & Vinther, 2003), suggesting that repetition itself may serve as a form-focusing device underlying learning. It will be important to explore this assumption so as to understand why a teaching framework like ACCESS, with its emphasis on meaningful communication, is not detrimental to the form-based processing benefits as discussed in the context of (L2) word processing. In other words, learners' accruing experiences with L2 speech within ACCESS should result in increasingly less emphasis on its meaning-related properties (as the meaning of each utterance used becomes progressively more familiar with its every repetition) and in increasingly more emphasis on its form-related properties, ideally leading to more form-based processing benefits. Indeed, there already exists some evidence that listeners' multiple encounters with utterances (albeit in the context of a laboratory-based experiment) determine the nature and magnitude of processing facilitation (priming) effects (Greene, 1990). These priming effects are believed to underlie implicit L1 and L2 learning phenomena (Ellis, 2002).

Issues in ACCESS Implementation

Although a detailed description of ACCESS implementation in a language classroom is beyond this article's scope (see Gatbonton & Segalowitz, 2005, for a comprehensive account), at least two related issues are likely to be of immediate concern for L2 pronunciation specialists: the generalizability of the framework to teaching other aspects of pronunciation and the criteria used in choosing targeted utterances.

ACCESS is applicable to the teaching of any segmental (e.g., English /r/ and /l/) and suprasegmental (e.g., placement of English sentence stress) aspect of pronunciation, provided that two design criteria are met. The first criterion is that the activity should target utterances that maximize the type frequency of a particular pronunciation aspect. Type frequency refers to the number of distinct targeted utterances exemplifying a particular pronunciation aspect. For example, when focusing on the English /r-l/ contrast in a unit on giving directions, it would be important to include instances of English /r/ and /l/ that occur in multiple words and in several phonetic contexts: word initially (e.g., *Stop at the next light; Go right*), in consonant clusters (e.g., *Walk straight until the next street corner; Drive slowly),* and word finally (e.g., *It is not far*). When exposed to high type frequency, learners will not only encode information specific to each individual token but also generalize across multiple types, creating "type-based" and "token-free" native-like phonological representations (Bybee, 2002). This kind of frequency-based learning is akin to auditory word priming, the implicit learning phenomenon investigated in the current study.

The second design criterion is that the selected utterances should have a clear pragmatic function and a high reuse potential. For example, utterances such as *Al is the brother of Jim*, *Lynn is Anna's mother*, *We see each other often*, *We are close to one another*, *How often do you get together*? used in introductions, identification of family relationships, and descriptions of family activities lend themselves well to demonstrating the production of English intervocalic /ð/. The functional load (and the teaching value) of the selected utterances may be augmented further when utterances feature frequent and formulaic grammatical structures or lexical items. Indeed,

many aspects of pronunciation strongly correlate with aspects of lexis or grammar, rendering, for example, a unit describing past events conducive to teaching the allophones of the past-tense morpheme *-ed*. A unit on household chores that includes utterances such as *He prepares dinner*, *She takes out the garbage*, and *He washes the car* can similarly be adapted to teaching the allophones of the third-person singular *-s*, a unit on introductions to teaching natural-speech phenomena (e.g., contractions, blending), or a job search unit to teaching word-stress placement in polysyllabic words (e.g., *photographer*). In fact, such an approach to selecting targeted utterances would help teachers seamlessly integrate pronunciation into already existing grammar, vocabulary, or conversation classes.

CONCLUSION

Situated in the context of L2 pronunciation learning, this article discussed the role of a repeated experience with L2 speech and an explicit focus on its form-related properties from information-processing and pedagogical perspectives. First, experimental evidence was provided that both repetition and focus on form have measurable benefits for L2 speech processing, lending validity to those approaches to teaching pronunciation that include repetition and involve focus on form. Then a communicative framework for teaching L2 pronunciation, one that combines repetition with focus on form within a communicative context, was described. Overall, the discussion of repetition and focus on form showed that one need not cast L2 pronunciation learning as a rote, meaningless, and largely teacher-driven process. Instead, as Ellis (2002) aptly put it, L2 pronunciation learning, and perhaps other aspects of L2 learning as well, can be conceptualized in the context of "*mindful* repetition in an engaging communicative context by motivated learners" (p. 177, original emphasis).

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APPENDIX
The Computer Unit: A Pronunciation Lesson for Low–Intermediate/Intermediate Level Students

Creative Automatization Phase	Pre-task Main Task	Ask a few students (Ss) if they have a computer. Find out what kind of computer they have, what they use it for, whether they are happy with it, and if given a choice to purchase a new computer, what kind they would like to buy. **Part 1. Creating a Survey:** Have Ss work in groups to find information about computers from each group member. Prepare a survey sheet containing information categories to fill out (e.g., computer type, its uses, satisfaction), which would ensure that Ss use the same questions you asked earlier: *Do you have a computer? What kind of computer do you have? Are you happy with your computer? Do you think the school should buy computers for your classroom? What do you use your computers for? What kind of computer would you recommend the school to buy for the classroom?* Alternatively, have Ss create their own questionnaire about computer use. Then, ask Ss to interview the other groups about their computer use using this questionnaire. **Part 2. Reporting Results:** Have one or two groups report what they found about computer use and needs in the class by answering questions from their classmates. Give the rest of the class a checklist requiring Ss to use questions such as the following: *Does everyone in your group have a computer? What kind of computer do you have? Are you happy with your computer? Do you think the school should buy computers for your classroom? What would you use the computer for? What kind of computer would your group recommend the school to buy?* Write the questions Ss ask on the board. Separate Information questions from *Yes/No* questions as you write.
Language Consolidation Phase	Language Focus	**Present Exemplars:** Call Ss attention to the questions on the board. Have Ss read the questions. For each, read the question with proper intonation pattern, repeat exaggerating its intonation. Have Ss repeat it with proper intonation. (Do it several times.) Have Ss clap the rhythm. **Analysis of Exemplars (induce noticing):** Have Ss close their eyes. Tell Ss you will ask the question slowly with proper intonation. Ask them to listen to your voice as you speak. Do it one more time. Ask Ss to tell you what you do with your voice as you ask the question: *Is there a word that is pronounced more strongly than other words? Which one?* Ask the question again. Have Ss repeat. Repeat these steps for the other questions on the board. **Generalization (discover patterns):** Ask Ss to repeat *Yes/No* questions after you, one at a time. Ask Ss if they know what kind of questions they are, what kind of answer they seek. Ask Ss if they notice a pattern in the way one makes the voice rise and fall for each question. *Is the pattern the same for all questions?* Tell Ss *Yes/No* questions have the same intonation pattern. *Can they describe the pattern?* Repeat the three language focus steps for Information questions. For the noticing part here, make Ss see the difference between the intonation pattern of *Yes/No* versus Information questions.

	Focused Practice	Ask Ss to listen to a set of tones (that imitate rising and falling intonation). Ask Ss to indicate if they heard the intonation of an Information question, of a *Yes/No* question. Play another set and ask Ss to see if the intonation patterns are the same. Play another and ask Ss to ask one of the questions they have practiced earlier (*Yes/No* or Information question, depending on the tone). Alternatively, use any intonation discrimination (same-different) or identification (*Yes/No* or Information question) exercises from a pronunciation text.
	Practice in Context	**Whole-Class Activity:** Ask the other group to interview those groups that have not yet been interviewed about what they found during the survey, using the same questions on the board. From this point on, remind Ss to use the proper intonation in asking questions. To ensure that they do, recast a question with an improper intonation pattern for the class or use previously agreed upon non-verbal signals as reminders. If frequent lapses occur, go back to the consolidation phase and through more form-focused tasks, ensure that the intonation patterns are well established.
Free Communication Phase		**Part 1:** Tell Ss that the school wants to buy a computer system for their classroom and that they have to recommend one for a budget of $5,000. Divide Ss into small groups. Give each person in a group a brochure describing a particular computer system. Have Ss read their brochure and take note of each system's important features and capabilities. **Part 2:** Have the Ss in each group find information about the different computer systems from their peers so that as a group they can come to consensus as to which of the computers advertised they would recommend. (The brochures should describe different brands of computers.) In completing this task, the students have to ask questions about the brands, features, and so on, and about whether to recommend them or not. This interaction will give Ss more opportunities to use the intonation patterns practiced earlier.

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