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FORUM—THE LINGUA FRANCA CORE

SOFTWARE REVIEWS

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TESOL QUARTERLY
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Editor's Note

■ Pronunciation is perhaps the linguistic feature most open to judgment. As a surface structure phenomenon that is most noticeable, one's accent easily evokes people's biases. For the same reason, pronunciation has been the most prescriptively taught aspect of language instruction. Pedagogies for accent reduction have bordered on the pathological. The articles in this special topic issue bring a much needed research focus on social and communicative considerations in pronunciation that can lead pedagogy in constructive new directions. Relating pronunciation to issues of identity, group membership, interpersonal negotiation, and the plurality of World Englishes, they treat the topic with great intellectual rigor.

John Levis's editorial introduction and the article by Tracey M. Derwing and Murray J. Munro in the opening section discuss the importance of developing a research-based approach to pronunciation and chart the paradigm shift taking place in the field. In the next section, John Field and David Deterding shift the focus from the speaker to the listener as they explore the ramifications of negotiating intelligibility. The reality of World Englishes raises new questions for pronunciation in the third section, where the authors argue that "deviant" accents should be treated as legitimized in other speech communities. This does not mean, however, that speakers of various institutionalized local Englishes do not experience conflicts over which accent is preferable. Articles by Timothy J. Riney, Naoyuki Takagi, and Kumiko Inutsuka and by Nicos Sifakis and Areti-Maria Sougari explore the relativity of World English accents in this section.

In the fourth section, authors discuss the ways in which issues of identity complicate pronunciation. Some speakers may not prefer what is socially prestigious or pedagogically correct. This important sociolinguistic perspective on the pressures from one's social group is developed by Elizabeth Gatbonton, Pavel Trofimovich, and Michael Magid. From a poststructuralist perspective, the choice of accent may indicate the agency of subjects to construct new and imagined identities. Paula Golombek and Stefanie Rehn Jordan show how two nonnative teacher trainees struggle to position themselves between accents. In the Forum section, Jennifer Jenkins, Rebecca Dauer, and Robin Walker explore different aspects of the exciting new

research on the lingua franca core. Although research showing that speakers of English as an international language may be developing new norms and practices for communicating across communities is insightful, how it might translate to language teaching is open to debate.

The guest editor, John Levis, should be congratulated for bringing together a talented group of international scholars and presenting research from geographically diverse contexts to produce this pathbreaking issue on pronunciation.

Suresh Canagarajah
Editor

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The December issue of* TESOL Quarterly *will contain articles focusing on research and teaching in atypical contexts.

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Changing Contexts and Shifting Paradigms in Pronunciation Teaching

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The history of pronunciation in English language teaching is a study in extremes. Some approaches to teaching, such as the *reformed method* and *audiolingualism,* elevated pronunciation to a pinnacle of importance, while other approaches, such as the *cognitive movement* and early *communicative language teaching,* mostly ignored pronunciation (Celce-Murcia, Brinton, & Goodwin, 1996). Currently, it seems clear that pronunciation deserves neither fate, either to be unfairly elevated to the central skill in language learning or banished to irrelevance.

To a large extent, pronunciation's importance has always been determined by ideology and intuition rather than research. Teachers have intuitively decided which features have the greatest effect on clarity and which are learnable in a classroom setting. Derwing and Munro (this issue), recognizing this tendency toward teacher intuition in determining classroom priorities, make an appeal for a carefully formulated research agenda to define how particular features actually affect speaker intelligibility. That such an appeal is needed suggests, in Derwing and Munro's words, that pronunciation "instructional materials and practices are still heavily influenced by commonsense intuitive notions" and that such intuitions "cannot resolve many of the critical questions that face classroom instructors" (p. 380).

During the past 25 years, pronunciation teachers have emphasized suprasegmentals rather than segmentals in promoting intelligibility (Avery & Ehrlich, 1992; Morley, 1991), despite a paucity of research evidence for this belief (Hahn, 2004). Recent carefully designed studies have shown some support for the superiority of suprasegmental instruction in ESL contexts (e.g., Derwing & Rossiter, 2003). Also, wider availability of software that makes suprasegmentals' discourse functions more accessible to teachers and learners will encourage work with suprasegmentals (Chun, this issue; Pickering, this issue). However, the importance of suprasegmentals for communication in English as an international language (EIL) is uncertain (Jenkins, 2000; Levis, 1999). It is also by no means clear that all suprasegmentals are equally learnable. Pennington and Ellis (2000), for example, found that although some

elements of intonation, such as nuclear stress, appear to be learnable, other elements, such as pitch movement marking boundaries and the intonation of sentence tags, are not. Even for those who advocate the centrality of suprasegmentals, a more nuanced approach is clearly needed.

COMPETING IDEOLOGIES

More fundamentally, pronunciation research and pedagogy have long been influenced by two contradictory principles, the *nativeness principle* and the *intelligibility principle*. The nativeness principle holds that it is both possible and desirable to achieve native-like pronunciation in a foreign language. The nativeness principle was the dominant paradigm in pronunciation teaching before the 1960s, but its influence was rapidly diminished by research showing that nativeness in pronunciation appeared to be biologically conditioned to occur before adulthood (Lenneberg, 1967; Scovel, 1995), leading to the logical conclusion that aiming for nativeness was an unrealistic burden for both teacher and learner. Despite extensive ongoing research into a critical period for acquiring pronunciation, in practice very few adult learners actually achieve native-like pronunciation in a foreign language. Factors such as motivation, amount of first language (L1) use, and pronunciation training are positively correlated with more native-like pronunciation, but none of these other factors seems to overcome the effects of age (Flege & Frieda, 1995; Moyer, 1999).

Although an overwhelming amount of evidence argues against the nativeness principle, it still affects pronunciation teaching practices. Popularly, the principle drives the accent reduction industry, which implicitly promises learners that the right combination of motivation and special techniques can eliminate a foreign accent. In language classrooms, it is common for learners to want to "get rid of" their accents (as one of my recent students expressed it). Many teachers, especially those unfamiliar with pronunciation research, may see the rare learner who achieves a native-like accent as an achievable ideal, not an exception.

The second principle is the intelligibility principle. It holds that learners simply need to be understandable. The intelligibility principle recognizes that communication can be remarkably successful when foreign accents are noticeable or even strong, that there is no clear correlation between accent and understanding (Munro and Derwing, 1999), and that certain types of pronunciation errors may have a disproportionate role in impairing comprehensibility.

The intelligibility principle implies that different features have different effects on understanding. Instruction should focus on those features

that are most helpful for understanding and should deemphasize those that are relatively unhelpful. This assumption of differential importance is evident in most intelligibility-based arguments for pronunciation instruction. For example, the longstanding belief that instruction should focus on suprasegmentals (e.g., Avery & Ehrlich, 1992) assumes that a focus on these features leads to better and quicker speaker intelligibility than a focus on segmentals.

Jenkins's (2000) *lingua franca core* (LFC), a proposal for intelligibility-based pronunciation instruction, shares this assumption about intelligibility, albeit with an important difference in communicative context. Jenkins argues that her approach supports EIL (also called ELF, or English as a lingua franca) communication, but her recommendations have caused pronunciation teachers in all contexts to revisit their beliefs about intelligibility and the primacy of suprasegmentals. Dauer (this issue) provides an ESL response to the LFC, both praising its renewed emphasis on segmentals and arguing that its de-emphasis on suprasegmentals will not serve learners well, given that the boundaries between ESL and EIL communication are more fluid than the LFC suggests.

The LFC also raises issues for EFL contexts, where its recommendations would seem to be most at home. However, because students in EFL classrooms share the same L1, they converge toward second language (L2) pronunciation that is heavily influenced by the L1. Thus, the documented tendency of different L1 speakers to converge toward more internationally intelligible pronunciation (Jenkins, 2000) does not seem to operate in EFL contexts. Walker (this issue) describes a technique used successfully to help learners who share the same L1 converge toward pronunciation that will be more intelligible in EIL communication.

Despite the current dominance of intelligibility as the goal of pronunciation teaching, both the nativeness and intelligibility principles continue to influence pronunciation in the language curriculum, both in how they relate to communicative context and in the relationship of pronunciation to identity.

THE IMPORTANCE OF CONTEXT

Most currently published pronunciation materials are consistent with the nativeness principle. These materials hold that prestige native speaker versions of English are the proper models for pronunciation learning. Although most native speakers of English speak neither General American nor Received Pronunciation (RP), published materials rely on these accents for examples, giving a skewed view of pronunciation that may not serve learners' communicative needs. Deterding (this issue) describes how Singapore English speakers who are used to RP

found Estuary English speech, which they are more likely to encounter in England, to be often unintelligible. Deterding argues that pedagogical reliance on prestige models is counterproductive for learners' ability to understand normal speech.

The intelligibility principle carries a sensitivity to context. Intelligibility assumes both a listener and a speaker, and both are essential elements for communication. Levis (in press) describes the context sensitivity of intelligibility in terms of a native speaking–nonnative speaking (NS–NNS) listener-speaker matrix for assessment (Figure 1). The four quadrants reflect different aspects of intelligibility and suggest different priorities for language teaching.

Quadrant A has NS speakers and listeners and is usually assumed to be the standard for successful communication. This assumption implies that the speakers' varieties are mutually intelligible, although it is not clear just how mutually intelligible native varieties actually are. Research has shown that understanding in NS communication is often more complex than one would expect (e.g., Cutler, Dahan, & van Danselaar, 1997). Quadrant B, with NS speakers and NNS listeners, is a normal configuration for language teaching in an ESL context. It is also the norm for most language teaching beyond ESL contexts, in which print and audio materials are based on NS models. However, the ways in which NNS listeners actually decode and interpret NS speech is not completely clear. Quadrant C reflects most current research on intelligibility, where NNS speakers communicate with NS listeners. This model assumes that NSs already have the ability to communicate and makes NNSs responsible for communicative success. Quadrant D, where both speakers and listeners

FIGURE 1
Speaker-Listener Intelligibility Matrix (Levis, in press)

		LISTENER	
		Native Speaker	Nonnative Speaker
SPEAKER	Native Speaker	A. NS–NS	B. NS–NNS
	Nonnative Speaker	C. NNS–NS	D. NNS–NNS

are NNSs, reflects EIL communication, in which NNSs use English as a lingua franca to communicate with each other.

Field (this issue) reports on research in which NNS listeners interpret misstressed words, some with changes in vowel quality. This study shows that NNS listeners behave somewhat differently from NSs, especially with regard to changes in vowel quality, leading Field to suggest that unstressed syllables may often be unimportant for intelligibility, a conclusion not so different from Jenkins's (2000).

In another study in this issue, Riney, Takagi, and Inutsuka show how Japanese and American listeners judge degree of accent differently. American listeners used primarily segmental clues (/l/ and /ɹ/) to determine strength of accent, but Japanese listeners appeared to use suprasegmentals to determine strength of accent. This finding suggests that emphasizing suprasegmentals in teaching NNSs does little to decrease NS listeners' perceptions of NNSs' accent, and that pronunciation teachers need to think more about how learners perceive speech rather than relying solely on NS perceptions.

In reality, the two-by-two matrix in Figure 1 is simplistic, reflecting a view of English that divides the world into native and nonnative speakers. Kachru's three circles of Englishes (Kachru, 1986) adds a third type of English user into the matrix, the speaker of a nativized variety. Thus, the question of intelligibility should be addressed using a three-by-three matrix (Figure 2).

FIGURE 2
World Englishes Speaker-Listener Intelligibility Matrix

		LISTENER		
		Inner Circle (IC)	Outer Circle (OC)	Expanding Circle (EC)
SPEAKER	Inner-Circle	*IC–IC* *(NS–NS)*	**1. IC–OC**	*IC–EC* *(NS–NNS)*
	Outer Circle	**2. OC–IC**	**3. OC–OC**	**4. OC–EC**
	Expanding Circle	*IC–IC* *(NNS–NS)*	**5. EC–OC**	*EC–EC* *(NNS–NNS)*

The four italicized corners of the matrix reflect the same communicative possibilities shown in Figure 1, but the bolded sections of the matrix are relatively unexplored. Both Quadrant 1 and Quadrant 2 include inner-circle and outer-circle interlocutors, and in both cases, the standardized nature of inner-circle Englishes may shift the perceived responsibility for being intelligible to outer-circle interlocutors (Bamgbọṣe, 1998). At this juncture, the communicative context becomes crucial. In U.S. university settings, for example, graduate teaching assistants from outer-circle countries such as India are routinely tested for spoken English proficiency, even when their English proficiency is otherwise indistinguishable from inner-circle graduate students. It seems evident that such testing is conducted because outer-circle speakers have unfamiliar accents, not a lower proficiency in English. In an outer-circle setting, however, an inner-circle interlocutor is more likely to recognize the validity of the outer-circle accent.

Quadrant 3, in which outer-circle speakers are interlocutors, likely has the same kind of variation in intelligibility as NS–NS communication. Outer-circle speakers will likely have the same difficulties with unfamiliar accents and registers that inner-circle speakers have with unfamiliar dialects.

Quadrants 4 and 5 include outer-circle and expanding-circle interlocutors. These interactions often occur in contexts without inner-circle speakers. As a result, pronunciation issues may cause breakdowns in communication similar to those described by Jenkins (2000), who found that pronunciation caused a loss of intelligibility in NNS–NNS communication. It would be surprising, however, if the two quadrants had the same bottom-up processing difficulties discussed by Jenkins. In general, the proficiency of outer-circle speakers is more like that of inner-circle speakers than that of expanding-circle speakers, for whom English is a foreign language. Thus, an outer-circle listener and an expanding-circle speaker, as in Quadrant 5, are more likely to negotiate intelligibility using context or top-down knowledge of English than are an expanding-circle listener and an outer-circle speaker, as in Quadrant 4, where bottom-up processing constraints are likely to be more severe.

IDENTITY

Both Figure 1 and Figure 2 have a weakness: In judgments of intelligibility, they ignore, on the positive side, the role of language identity, and on the negative side, language attitudes. Accent is influenced not only by biological timetables but also by sociolinguistic realities. In other words, speakers speak the way they do because of the social groups they belong to or desire to belong to. The role of identity in accent is perhaps

as strong as the biological constraints. Accent, along with other markers of dialect, is an essential marker of social belonging.

The pull of identity is also strong for NNSs of a language. Jenkins (2000) describes how same-L1 NNS pairs pronounce English with a greater number of deviations than do pairs of speakers from different L1s. This tendency toward convergence, even when it means speaking English with more deviant pronunciation, indicates the importance of identity. The addition of biological constraints to L2 pronunciation makes the acquisition of a prestige variety of English especially difficult. Gatbonton, Trofimovich, and Magid (this issue) show how ethnic group affiliation is a critical factor in pronunciation accuracy. They argue that inaccuracy may reflect neither lack of ability nor interest but rather social pressure from home communities or other students who speak their L1. In fact, speakers who are too accurate risk being seen as disloyal to their primary ethnic group.

The tension between accent and identity is perhaps strongest for teachers from outside inner-circle countries. As teachers, their accents may be a matter of pride (Sifakis & Sougari, this issue) or uneasiness because NS pronunciation is seen as "the yardstick for intelligibility" (Golombek & Jordan, this issue, p. 520), but it is never a neutral issue. Jenkins (this issue) describes NNS teachers' ambivalence when discussing accent. Teachers exploring ELF pronunciation goals approve of them for others, but they often want to match their own pronunciation to NS norms. Jenkins says that despite verbal assent to ELF goals, "most [teachers] nevertheless continued referring to NNS differences from RP or GA as 'incorrect' forms rather than ELF variants, as if they could accept ELF in theory but not in practice" (p. 540). Sifakis and Sougari (this issue) find some willingness among Greek teachers to consider ELF goals, although the teachers in their study strongly adhere to inner-circle pronunciation norms. Progress in adopting ELF goals, suggest the authors, can only be achieved by explicit in-service and preservice education on how English functions in the teachers' immediate geopolitical environment.

Accent is also intertwined with race in determining professional identity. Golombek and Jordan (this issue) report on two Taiwanese teachers of English studying in a U.S.-based TESL master's program. Both teachers claim that NS teachers in Taiwan are judged as much on appearance as on language. In fact, white teachers are often preferred, so that native speakers of Spanish and French are also considered to be speakers of American English because they look the part. Golombek and Jordan call for teacher education programs to help NNS students "imagine alternative identities" (p. 513) for themselves, identities that go beyond restrictive notions of pronunciation intelligibility and employ a variety of factors to establish professional legitimacy.

These examples suggest how identity is complicated not only by the desire to belong, but by the attitudes and prejudices of others. If the positive aspect of identity is the desire to belong, the negative is the desire to exclude. Mugglestone (1995) traces the rise of the prestige accent in British English, in which RP became the mark of those who went to the right schools and therefore the mark of socioeconomic power and status, but that also made it a gate-keeping tool that could be used to exclude. Lippi-Green (1997) similarly discusses how accent is used in American English to discriminate against speakers of nonprestige varieties. Using language in general and accent in particular to discriminate has been called the last publicly acceptable form of discrimination. Language thus comes to be the acceptable substitute for discrimination based on other qualities such as racial, ethnic, and class differences (Milroy & Milroy, 1985; Wolfram & Schilling-Estes, 1998).

CONCLUSION

Currently, pronunciation theory, research, and practice are in transition. Widely accepted assumptions such as the primacy of suprasegmentals, the superiority of inner-circle models, and the need for native instructors have been rightly challenged. ESOL professionals are recognizing that judgments of intelligibility involve nonlinguistic as well as linguistic factors, and that even completely intelligible pronunciation may be evaluated negatively. Decisions about adjusting accent are not value free because accents are intimately tied to speaker identity and group membership. Increasing evidence also shows that the context of instruction directly affects how pronunciation should be addressed. Users of English who interact professionally in inner-circle contexts may need to adjust to an inner-circle model, but English users in the outer or expanding circle may find that inner-circle models are inappropriate or unnecessary (Jenkins, 2000). These findings indicate that teaching pronunciation is only partially a pedagogical decision, and that old assumptions are ill-suited to a new reality.

THE AUTHOR

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Second Language Accent and Pronunciation Teaching: A Research-Based Approach

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Empirical studies are essential to improving our understanding of the relationship between accent and pronunciation teaching. However, the study of pronunciation has been marginalized within the field of applied linguistics. As a result, teachers are often left to rely on their own intuitions with little direction. Although some instructors can successfully assist their students under these conditions, many others are reluctant to teach pronunciation. In this article we call for more research to enhance our knowledge of the nature of foreign accents and their effects on communication. Research of this type has much to offer to teachers and students in terms of helping them to set learning goals, identifying appropriate pedagogical priorities for the classroom, and determining the most effective approaches to teaching. We discuss these possibilities within a framework in which mutual intelligibility is the primary consideration, although social ramifications of accent must also be taken into account. We describe several problem areas and identify some misconceptions about pronunciation instruction. In addition, we make suggestions for future research that would address intelligibility, functional load, computer-assisted language learning, and the role of the listener. Finally, we recommend greater collaboration between researchers and practitioners, such that more classroom-relevant research is undertaken.

The phenomenon that we call a foreign accent is a complex aspect of language that affects speakers and listeners in both perception and production and, consequently, in social interaction. Although second language (L2) accent has long been a topic of discussion and speculation, only the last few decades have seen a systematic effort to investigate

the impact of L2 accented speech on communication. Even now, much less research has been carried out on L2 pronunciation than on other skills such as grammar and vocabulary, and instructional materials and practices are still heavily influenced by commonsense intuitive notions. Though no one would question the value of intuition based on practical experience, complete reliance on anecdotal evidence and personal impressions in language pedagogy has serious drawbacks. In particular, these sources cannot resolve many of the critical questions that face classroom instructors nor do they always lead to valid, productive classroom activities. Therefore, the need for empirical, replicable studies to inform pronunciation instruction is clear.

The focus of this article is on English as a second language (ESL) contexts such as North America, Australia, Britain, and New Zealand, where English is the language of the majority and where mutual intelligibility is a crucial concern. Given the current levels of immigration in these English-speaking countries, the potential for miscommunication and even language-based discrimination has increased. More than ever before, an understanding of accent is needed, not only on the part of instructors and applied linguists, but also by the general public.

We note that in English as an international language (EIL) contexts, issues concerning pronunciation can be quite different from those that arise in ESL environments. Jenkins (2000, 2002) has argued that EIL learners should not have to adapt to native speaker (NS) norms but should adjust their speech to suit an audience of primarily nonnative speakers (NNSs). She has proposed a lingua franca core for pronunciation instruction that takes into account aspects of mutual intelligibility. Jenkins suggests that NNS phonological phenomena that are unlikely to cause comprehension problems for other NNSs (such as interdental fricatives) fall outside the core. She also argues against the excessive reliance on intuition rather than empirical evidence in the creation of pronunciation syllabi (Jenkins, 2002). Like Jenkins, we argue that mutual intelligibility is the paramount concern for second language learners; however, ESL learners have to make themselves understood to a wide range of interlocutors within a context where their L2 is the primary language for communication and where, in many cases, NSs are the majority. In addition, the purposes for communication may vary to a greater extent when immigrants integrate socially in the target culture, which is an important difference from EIL environments.

WHAT COUNTS AS RESEARCH?

If it is to be useful, research on pronunciation must be subject to the same constraints as research in any other domain of second language

acquisition. Data collection should be rigorous and neutral rather than selective and biased. For example, classroom observation of particular error patterns, accompanied by analysts' commentaries on learner output, are valid ways of documenting aspects of pronunciation, but they do not in themselves constitute sufficient evidence about learners' abilities or about the effects of instruction on learners' language output. One problem with this approach is selection bias. As Schachter (1974) notes, observing only errors that occur in natural productions may conceal underlying processes because of learner avoidance strategies. A second serious problem is the potential for observer bias in the evaluation of classroom performance. Suppose, for example, that a new pedagogical technique results in an immediate improvement on a particular pronunciation feature. Unfortunately, the researcher's perception may be clouded by the desire to see students improve. He or she may also overlook the possibility that, even if the learners' output did change, it may not have long lasting or communicative value. Still another problem is that researchers cannot assume that their own observations of students coincide with those of the community members with whom L2 students commonly interact. In fact, researchers' perceptions of an improvement may not be shared with others. For these reasons, useful, generalizable conclusions about learners' speech are possible only through assessments that are unbiased by familiarity with the speaker or the teaching situation. At present, the best available technique for achieving this goal is the collection of blind responses from community members with whom L2 speakers interact. These communities often include both NSs and NNSs, whose responses may take a wide range of forms, including ratings, transcriptions, sentence verifications, or answers to comprehension questions.

The use of listeners' judgments in the evaluation of L2 speech is not without problems. Their responses to an utterance may be influenced by such factors as their experience with accented speech or personal bias against particular accents or voices. Thus, such ratings have some degree of subjectivity. Nevertheless, rating-judgment studies (e.g., Derwing & Munro, 1997; Derwing, Munro, & Wiebe, 1997, 1998; Munro & Derwing, 1995, 1999, 2001) have shown a high degree of reliability across groups of listeners, such that some shared sense of what constitutes intelligible versus unintelligible L2 speech is possible. If this were not so, that is, if individual responses to L2 speech were entirely subjective, pronunciation teaching would be pointless because the effects of changing a speaker's pronunciation would be different for every listener.

Another limitation of the research on responses to accented speech is that insufficient work has been done with NNS listeners. EIL research is now beginning to address this issue (see Jenkins, 2002). Furthermore, preliminary studies indicate that NNSs often find understanding an L2

speaker from their own L1 background easier than understanding someone from a different L1 background (Major, Fitzmaurice, Bunta, & Balasubramanian, 2002; Smith & Bisazza, 1982). However, additional work comparing the responses of NSs and NNSs is needed to develop a more complete understanding of L2 speech intelligibility.

THE MARGINALIZATION OF PRONUNCIATION WITHIN APPLIED LINGUISTICS

An extensive, growing literature on L2 speech has been published in journals that focus on speech production and perception, for example, *Journal of the Acoustical Society of America, Journal of Phonetics,* and *Language and Speech.* Yet this work is rarely cited or interpreted in teacher-oriented publications. Researchers may not be aware of this literature in part because it is inaccessible to those without specialized knowledge of phonetics. Moreover, some of the research may not be perceived as practical because it has been carried out under strict laboratory conditions, so that it is not immediately clear how the findings apply to the classroom. However, the consequences of ignoring this important body of work are serious. Levis (1999), for instance, presents the disturbing observation that "present intonational research is almost completely divorced from modern language teaching and is rarely reflected in teaching materials" (p. 37). This problem can be resolved only if applied linguists take responsibility for interpreting technical research for pedagogical specialists and incorporating pertinent findings into teacher training materials and student texts. Despite teachers' increased interest in pronunciation in recent years, as evidenced by the establishment of a TESOL interest section and a proliferation of pronunciation materials for learners, it remains a very marginalized topic in applied linguistics. Consider, for example, *The Handbook of Second Language Acquisition* (Doughty & Long, 2003), in which the authors do not mention pronunciation research. An informal survey of recent applied linguistics journals intended for teachers also reveals few papers on pronunciation, and an examination of many recent general ESL teacher texts shows only minimal attention to pronunciation, if any (a notable exception is Celce-Murcia, 2001). Nunan (1999), for instance, devotes only 2.5 pages to the topic, most of which is concerned with describing the critical period. Other teacher preparation books have even less information (e.g., Davies & Pearse, 2000; Hedge, 2000; Lightbown & Spada, 1999; Willis, 1996). Although Harmer (2001) gives more attention to pronunciation than others do, he cites no research. In the past, traditional textbooks designed to prepare ESL teachers to teach pronunciation did not

explicitly mention any research findings (e.g., English Language Services, 1966, 1967). In their comprehensive texts on pronunciation teaching, Dalton and Seidlhofer (1994) and Celce-Murcia, Brinton, and Goodwin (1996) introduced an important change to the field by including references to research that provide useful background information. Despite this significant step, the need remains for texts that make direct links between research findings and ways to address specific problems.

The lack of attention to pronunciation teaching in otherwise authoritative texts has resulted in limited knowledge about how to integrate appropriate pronunciation instruction into second language classrooms. Reputable programs often use materials based on perceptions of successful practice, with little or no reference to research findings and without empirical evidence of improved outcomes (Breitkreutz, Derwing, & Rossiter, 2002). This situation thus creates a twofold problem: relatively little published research on pronunciation teaching and very little reliance on the research that does exist.

UNDERSTANDING FOREIGN ACCENTS AND THEIR EFFECTS ON THE LISTENER

It is well established that foreign accents are a normal consequence of second language learning. Numerous studies have shown that most people who acquire a second language after early childhood are likely to exhibit nonnative patterns of pronunciation. The strength and nature of such accents vary with L1, with the age when the L2 learning began, with L1-L2 use and L2 experience, and with motivational factors (see Piske, MacKay, & Flege, 2001, for a comprehensive review).

At the same time, native and nonnative listeners are surprisingly adept at noticing when speech differs from their own variety. Flege (1984), for instance, found that phonetically untrained listeners could identify nonnative speakers on the basis of short samples of speech, including phrases, words, individual segments, and even segment portions of about 30 milliseconds in length. Clearly, native listeners are extremely sensitive to nonnative productions. Presumably they succeed at detecting foreign-accented speech by relying on multiple cues, such as segmental variations and prosodic factors. Munro, Derwing, and Burgess (2003) found that listeners could detect accentedness even in a single word presented backward. This finding suggests that, along with speech characteristics commonly noted in pronunciation texts, voice quality may help listeners to recognize NNSs, as proposed by Esling and Wong (1983).

HOW RESEARCH CAN HELP

Setting Goals

Research can help teachers and learners set realistic goals. In communicatively oriented ESL settings, improved intelligibility is generally identified by pedagogical specialists as the most important outcome of pronunciation instruction. Abercrombie (1949), for example, stated that "language learners need no more than a comfortably intelligible pronunciation" (p. 120). This view of second language speech has been reaffirmed by Gilbert (1980), Pennington and Richards (1986), Crawford (1987), and Morley (1991), among others, yet empirical research is rarely if ever cited to support this goal (Hahn, 2004). In fact, teachers show a great deal of confusion about what is possible and what is desirable in pronunciation instruction, despite some quite definitive research findings on this topic.

In a study of 100 adult ESL learners in Canada, Derwing (2003) found that the overwhelming majority considered speaking with perfectly native pronunciation to be a desirable goal. It is sometimes argued (e.g., Harmer, 2001) that learners should not be denied this possibility if that is what they want, but this reasoning is incongruent with available research evidence on ultimate attainment in pronunciation. Although some work suggests that adult L2 learners may occasionally achieve native-like speech patterns, this phenomenon appears to be restricted to a very small number of highly motivated individuals (Moyer, 2004) and to those with special aptitude (Ioup, Boustagi, El Tigi, & Moselle, 1994). Studies of ultimate attainment in general suggest that native-like pronunciation among those who acquire an L2 after early childhood is actually exceedingly rare (Flege, Munro, & Mackay, 1995; Scovel, 2000). In fact, there is no reason to believe that this goal is achievable in typical ESL classrooms. Indeed, we know of no study documenting a link between pronunciation instruction and the elimination of a foreign accent. Rather, most learners who strive for nativeness are likely to become disheartened. Though all learners should be encouraged to reach their full potential, which may well exceed the minimum required for basic intelligibility, it may do more harm than good for teachers to lead learners to believe that they will eventually achieve native pronunciation or to encourage them to expend time and energy working toward a goal that they are unlikely to achieve. Thus we, and the research, disagree with Harmer (2001), who asserts that "it would be churlish to deny them [L2 students] such an objective" (p. 184). Out of concern for the welfare of L2 students, teachers should help them to set realistic goals on the basis of current research findings.

Setting Pedagogical Priorities

In determining pedagogical priorities, it is essential to have an accurate understanding of the target language's phonological system. Although many facts of English phonology are established, work remains to be done to test assumptions about native speakers' interpretations of English prosody. As Levis (2002) has pointed out, some suprasegmental phenomena may not be as important to meaning as is sometimes claimed. He found, for example, that native listeners distinguished meanings in only three of five intonation contours. Before L2 speakers are taught the patterns of English speech, researchers and teachers must ensure that the information they provide is accurate.

Within an ESL setting, a foreign accent has several consequences for the speaker (Flege, 1988). On the positive side, it signals to an NS interlocutor that an L2 learner is nonnative and may therefore require modified input (Gass & Varonis, 1984). On the negative side, an accent may reduce intelligibility in both NS–NNS and NNS–NNS interactions and may serve as a basis for negative social evaluation and discrimination (Lippi-Green, 1997; Munro, 2003). The reactions of a listener to accented speech are complex and may be understood at many levels. Munro and Derwing (1995) focused on three aspects of foreign-accented speech (see Table 1): (a) the extent to which the speaker's intended utterance is actually understood by a listener (intelligibility), (b) the listener's perception of the degree of difficulty encountered when trying to understand an utterance (comprehensibility), and (c) how much an L2 accent differs from the variety of English commonly spoken in the community (accentedness).

Though it is often assumed that greater accentedness automatically entails reduced intelligibility and comprehensibility, the situation is not

TABLE 1
Intelligibility, Comprehensibility, and Accentedness

Term	Definition	Measure
Intelligibility	The extent to which a listener actually understands an utterance	Transcription task % words correct
Comprehensibility	A listener's perception of how difficult it is to understand an utterance	Scalar judgment task 1 = extremely easy to understand 9 = extremely difficult to understand
Accentedness	A listener's perception of how different a speaker's accent is from that of the L1 community	Scalar judgment task 1 = no accent 9 = extremely strong accent

so straightforward. In fact, one of the most robust findings in studies examining the relationships among these dimensions is that they are partially independent. Although listeners who find specific L2 utterances to be both unintelligible and incomprehensible always perceive such samples as heavily accented, the reverse is not necessarily true. Thus, listeners often assign good comprehensibility ratings to speech samples that they have also rated as heavily accented. Moreover, transcription studies indicate that some heavily accented speech samples are completely intelligible, while others are not (Derwing & Munro, 1997; Munro & Derwing, 1995). The gap between what is unintelligible and what is merely heavily accented but still understandable might be explained in part by the fact that listeners use context to interpret speech. In a study by Suenobu, Kanzaki, and Yamane (1992), English words produced by Japanese speakers were presented to 48 American English listeners for transcription. The intelligibility scores increased from 42% to 67% when the words were presented in their original sentence context as opposed to being presented in isolation. Although research indicates that intelligibility is an achievable goal, a greater understanding is needed of the relationship between accent phenomena and interference with meaning. Assuming equal contextual information, why is one utterance understandable and another unclear? An answer to that question could be pedagogically useful because it would allow teachers to prioritize the aspects of pronunciation covered in their lessons. For instance, it is widely accepted that suprasegmentals are very important to intelligibility, but as yet few studies support this belief.

At least three categories of studies would help elucidate the factors that interfere most with intelligibility. First, listener tasks (e.g., judgments, transcriptions, sentence verification) can show how different error types contribute to intelligibility (Anderson-Hsieh, Johnson, & Koehler, 1992; Munro & Derwing, 1995, 1999). Second, before- and after-teaching experiments that focus on a particular aspect of learners' productions can show whether listeners are affected by a change in the students' speech (Derwing, Munro, & Wiebe, 1997, 1998; Perlmutter, 1989). Third, psycholinguistic experiments limited to particular segments or prosodic elements can provide insights into the processing of accented speech (Tajima, Port, & Dalby, 1997; Wingstedt & Schulman, 1987).

Hahn (2004) conducted a study of the third type, in which a suprasegmental feature was manipulated. She played Korean accented minilectures to three groups of undergraduate college students. Each lecture was identical, except with respect to assignment of *nuclear stress* (which Hahn calls *primary stress*). She then measured the listeners' comprehension of the lectures and collected their reactions to the passages. The group who heard the appropriate assignment of nuclear stress understood

significantly more of the lecture and rated the speaker more favorably than the other groups. Although errors in nuclear stress constitute just one aspect of a foreign accent, Hahn's work indicates that they can seriously affect comprehensibility. It follows that suitable instruction should be given to L2 speakers who do not assign nuclear stress appropriately. This study and Pennington and Ellis's (2000) research on the role of attention in the acquisition of prosody are precisely the type of work needed to confirm or refute approaches emphasizing suprasegmentals as suggested by pronunciation specialists (e.g., Firth, 1992; Gilbert, 1993). Ultimately, the teachers' goal should be to analyze students' speech and help them select areas for practice based on empirical findings.

Determining Effective Teaching Foci

It is somewhat surprising that so few studies have evaluated the efficacy of pronunciation teaching, given the general acknowledgement that many L2 speakers need support to improve their intelligibility. It is all the more remarkable because a popular current paradigm in applied linguistics is the assessment of various approaches designed to have an impact on learners' productions in other areas of language development (e.g., task-based language learning with a focus on form; Long & Crookes, 1993). Evidence suggests that acquiring pronunciation is no different from acquiring syntax in this respect—students need help noticing what they are doing (Flege & Wang, 1989). We are not suggesting a return to a comparison of methods of the type carried out in the 1960s and 1970s. Rather, we are concerned with matching instructional content to ESL speakers' needs. That is, we would ask whether the aspects of a learner's speech that cause problems for intelligibility are the focus of instruction, regardless of the teaching methods employed.

Among the few ESL studies of pronunciation instruction are Couper (2003); Derwing, Munro, and Wiebe (1997, 1998); Macdonald, Yule, and Powers (1994); and Perlmutter (1989). These studies all suggest that pronunciation teaching can improve L2 learners' oral productions (even in individuals who have lived in an English-speaking environment for several years), but they give only limited insight into the range of changes that can be effected. Furthermore, only Derwing, Munro, and Wiebe (1997, 1998) and Perlmutter (1989) assessed improvements in intelligibility per se using a pool of linguistically untrained listeners. Although more research on the effects of pronunciation instruction is needed, especially longitudinal studies that can determine how long the improvements last, the studies identified here suggest that teaching can be beneficial. Just as students learning certain grammar points benefit

from being explicitly instructed (Spada, 1997) to notice the difference between their own productions and those of L1 speakers (Schmidt, 1990), so students learning L2 pronunciation benefit from being explicitly taught phonological form to help them notice the differences between their own productions and those of proficient speakers in the L2 community.

If we accept that pronunciation instruction can make a difference, the next step is to identify ways to tailor it to the students' needs. One important issue addressed by researchers concerns the relationship between perception and production. Numerous studies have suggested that many L2 production difficulties are rooted in perception. Evidence also indicates that appropriate perceptual training can lead to automatic improvement in production. For instance, work by Bradlow, Pisoni, Akahane-Yamada, and Tohkura (1997) has shown that when Japanese speakers are trained to perceive the /r/-/l/ distinction, their productions may automatically improve, even when no production training is provided. This empirical finding supports the intuitive practice of using perceptual training tasks such as discrimination and identification exercises in the classroom (Gilbert, 1993).

Another example of how research can inform classroom practice is illustrated in Derwing, Munro, and Wiebe (1998). In that study, two groups of ESL students, all of whom evidenced both segmental and suprasegmental production difficulties, received either global (mainly prosodic) or segmental content in their classroom instruction and were compared with an uninstructed control group. Both experimental groups showed improvement in perceived accentedness and comprehensibility when reading sentences aloud, but only the students in the global group showed any improvement on an extemporaneous picture narrative task: They were judged to be significantly more comprehensible after instruction. In a follow-up analysis of the participants' productions, Derwing and Rossiter (2003) determined that the students in both experimental groups learned what they were taught. The participants in the segmental group showed considerable improvement in their production of individual sounds, but the overall effect on comprehensibility in extemporaneous speech was negligible. This observation does not lead to the conclusion that segments should not be taught. Rather, Derwing, Munro, and Wiebe (1998) propose that

> attention to both global and segmental concerns benefits ESL students. In the case of a communication breakdown caused by a mispronunciation, a student who has received segmental training might be able to focus on the mispronounced form in a self-repetition. On the other hand, global instruction seems to provide the learner with skills that can be applied in extemporaneous speech production, despite the need to allocate attention to several speech components. (p. 407)

SOME CURRENT PROBLEMS AND MISCONCEPTIONS

As a result of pronunciation's marginalized status, many ESL teachers have no formal preparation to teach pronunciation. Breitkreutz, Derwing, and Rossiter (2002), for instance, reported that 67% of ESL teachers surveyed in Canada had no training at all in pronunciation instruction. This phenomenon is not limited to North America: Burgess and Spencer (2000) also called for more pronunciation training for teachers in Britain. MacDonald (2002) cites several studies in Australia indicating that many teachers do not teach pronunciation "because they lack confidence, skills and knowledge" (p. 3). The general lack of teacher preparation may partially explain the findings of another survey in which only 8 of 100 adult intermediate ESL learners indicated that they had received any pronunciation instruction, despite having been enrolled in ESL programs for extended periods of time (Derwing & Rossiter, 2002).

Relying on experiences and intuitions sometimes serves teachers well. Those who have strong observation skills and who are phonologically aware may address learners' needs satisfactorily. These same teachers may develop critical evaluation skills so that they gain a sense of what will and will not work for their students. Their intuitions may well be confirmed by research findings. However, expecting teachers to rely solely on intuition is unrealistic and unfair. Other aspects of pedagogy receive extensive attention in teacher preparation courses and materials, but in many instances L2 instructors are apparently left to teach themselves how to address pronunciation with their students.

The consequences of inadequate teacher preparation are many. In some instances, students simply do not receive any instruction, or they are directed to focus on the most salient characteristics of their accent, regardless of their influence on intelligibility. For example, Derwing and Rossiter (2002) found that, of students who were able to identify any pronunciation problem in their own speech, 90% identified individual segments, with *th* as the overwhelmingly most frequent response (see comments later on *functional load*).

Another concern is that those untrained instructors who do choose to teach pronunciation may rely too heavily on pronunciation textbooks and software without regard for their own students' problems. This strategy does not work for several reasons. First, most materials have been designed without a basis in pronunciation research findings. This omission precludes teachers' understanding of the rationale for the content and activities suggested and thus does not allow for appropriate matching to students' requirements. Second, teachers who do not have a foundation in either linguistics or pronunciation research may not be able to make wise choices with respect to uses of computer software, whether it is specifically intended for pronunciation instruction or not.

For example, Sustarsic (2003) recommends using Dragon Naturally-Speaking (ScanSoft, 1997) software (a program that automatically transcribes speech) as a means of providing feedback to learners on their pronunciation. Of course, if computer software could actually provide useful, individualized feedback to learners on their pronunciation, the teacher's burden would be dramatically reduced. However, as observed by Derwing, Munro, and Carbonaro (2000), that software was not intended for this purpose. Nor does it respond to L2 users' speech in the same way that human listeners do, and any adjustments that the learners make to accommodate the software may be useless or even counterproductive in real interactions.

A third serious problem caused by teachers' lack of knowledge of phonetics has been discussed by Wang and Munro (2004), who note that ESL learners sometimes experience pedagogical misdirection when they are taught the English /i/-/ɪ/ distinction (e.g., *beat* vs. *bit*). Hillenbrand and Clark (2000) observed that North American English speakers distinguish between /i/ and /ɪ/ primarily on the basis of vowel quality rather than length. Yet other research (Bohn, 1995) reveals that learners of English from many L1 backgrounds tend to perceive /i/ as a long vowel and /ɪ/ as a short vowel with little or no difference in quality. This problem is reinforced by teachers who mistakenly tell students that the important distinction between these two vowels is length. Wang and Munro (2004) showed that, with only a small amount of perceptual training, ESL learners who had received misleading instruction on this point could learn to focus more on the differences in vowel quality and to largely ignore length.

ESL instructors who have not had opportunities for professional development in pronunciation teaching may develop some teaching strategies that actually have little or no value or that may be counterproductive. For example, in a teacher-oriented publication, Usher (1995) claimed that the distinction between /b/ and /p/ should be taught to students as a difference in breathing, such that /b/ requires inhalation while /p/ requires exhalation. This assertion directly contradicts the well-established fact that normal English speech sounds are never produced while inhaling (e.g., Cruttenden, 1994). Similarly, having students hold a pencil between their nose and upper lip has been advocated as an all-purpose exercise for improving English pronunciation (Stuparyk, 1996). We know of no evidence to suggest that such a technique has any value. Rather, such activities not only waste students' time and money, but also may cause more problems than they solve.

One misapprehension about L2 speech instruction is that technology is a panacea for correcting pronunciation. Among the greatest potential benefits of computer-assisted language learning (CALL) are the opportunities it could provide for individualized instruction and for exposure

to a wide range of voices and contexts through extended listening practice. At present, however, it seems that most available software is of the "one size fits all" variety, designed to appeal to a mass market. Moreover, much of the recent CALL software appears to exploit the impressive multimedia capabilities of computers, rather than present content that is linguistically and pedagogically sound. For instance, Breitkreutz et al. (2002) found that the most popular pronunciation software programs in Canadian ESL classrooms focused exclusively on segmentals rather than prosody, and that some had inaccurate representations of allophonic variation. Merely presenting a large number of phonological contrasts has little value with no indication of what is important, either in terms of the learner's needs (depending on L1 and on individual differences) or of what matters for intelligibility.

To avoid these negative outcomes, it is important first, that instructors have opportunities to learn about pronunciation pedagogy and, second, that such teacher preparation be grounded in research findings. Teacher trainers need to help instructors develop the skills to critically evaluate materials and curriculum on the basis of empirical research.

FUTURE RESEARCH DIRECTIONS

With the heightened interest in pronunciation now evident among pedagogical professionals, applied linguists need to undertake programmatic research that will extend knowledge of pronunciation learning. We see several directions in which this work should proceed.

First, more research should be conducted on intelligibility to establish the most effective ways of assessing it and to identify the factors that contribute to it. No single approach to intelligibility assessment can take into account all the subtleties that might influence a listener (see Zielinski, 2004). However, researchers seem to agree that the intelligibility of L2 utterances can at least be estimated using a variety of techniques, one of which is the transcription task (e.g., Brodkey, 1972; Burda, Scherz, Hageman, & Edwards, 2003; Suenobu, Kanzaki & Yamane, 1992). Further work using transcription and other methods of collecting listeners' responses will help establish the bases of intelligibility; in addition, researchers need to explore how several factors interact at prosodic, segmental, and voice quality levels.

Closely linked to the intelligibility question is the role of functional load. The gravity of certain types of errors is believed to differ, depending on the functional load of the phonological contrasts that the learner has incorrectly produced. For instance it has been proposed that the substitution of /t/ for /θ/ (*ting* for *thing*) is less important than the substitution of /b/ for /p/ (*bat* for *pat*). Although important theoretical

work has already discussed the issue of functional load (Brown, 1991; Catford, 1987), more systematic experimental studies are needed that test predicted hierarchies, along the lines of Wingstedt and Schulman (1987).

Further work on CALL software should take into account research findings on intelligibility and functional load to yield materials with appropriately motivated content that meets students' needs. Pennington and Ellis (2000) have shown that software can help L2 learners acquire prosodic patterns if it focuses their attention on crucial distinctions. This is a promising area that deserves further development. Of course, other pedagogical materials should also take into consideration research findings to provide useful instruction for learners.

A wide range of listener factors, such as familiarity with foreign-accented speech, willingness to communicate, and attitudes toward L2 speakers, contribute to the success of any communicative activity (Gass & Varonis, 1984; MacIntyre, Baker, Clément, & Donovan, 2003; Rubin, 1992). These phenomena require extensive further research. Preliminary evidence suggests that native listeners can benefit from training to improve their skills at listening to accented speech (Derwing, Rossiter, & Munro, 2002). More attention should also be focused on the mutual intelligibility of NNSs of English. This is especially important at a time when English is increasingly used as a lingua franca around the world (Jenkins, 2000; Kachru, 1992).

One of the most important challenges in the coming years is an emphasis on greater collaboration between researchers and practitioners to encourage more classroom-relevant research. It is not reasonable to expect all teachers to have the expertise, time, and resources to conduct the type of research that we see as critical. Although some individuals successfully balance teaching and research (usually in university settings), the structure of the ESL programs in which many instructors work makes it difficult to assume both roles. Ideally, teacher preparation programs should provide ESL teachers with sufficient background to enable them to assess their students' pronunciation problems and to critically evaluate research findings, materials, and techniques to determine their applicability for their students. At the same time, researchers need to understand classroom dynamics and students so that they can work in concert with teachers to ensure appropriate research methodology and meaningful findings. In the meantime, applied linguists with an interest in pronunciation should ensure that ESL teacher preparation programs offer courses in pronunciation pedagogy firmly rooted in existing research. Researchers and teachers owe this to ESL students, many of whom view pronunciation instruction as a priority.

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Intelligibility and the Listener: The Role of Lexical Stress

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For some 30 years, intelligibility has been recognized as an appropriate goal for pronunciation instruction, yet remarkably little is known about the factors that make a language learner's speech intelligible. Studies have traced correlations between features of nonnative speech and native speakers' intelligibility judgements. They have tended to regard prosody as a global phenomenon and to view intelligibility as primarily a quality of the speaker. The present article focuses on a single prosodic element, *lexical stress,* and shifts the focus of study to the listener. It draws on findings in psycholinguistics that have rarely been applied to second language (L2) contexts. Groups of listeners were asked to transcribe recorded material in which the variables of lexical stress and vowel quality were manipulated. Recognizing the extent to which English is employed in international contexts, the study contrasted the effect of the variables on native listeners (NLs) with their effect on nonnative listeners (NNLs). NLs and NNLs were found to respond in remarkably similar ways to the problems posed by stress misallocation. For both groups, the extent to which intelligibility was compromised depended greatly on the direction in which stress was shifted and whether changes in vowel quality were involved.

Arguably the most pressing issue in L2 pronunciation research today is the quest to identify the factors that most contribute to speaker intelligibility. Intelligibility is the target that pronunciation instruction traditionally sets for itself, but English language teachers know little about how best to help learners achieve it. A number of revealing studies have attempted to trace correlations between various features of nonnative speech and native speakers' intelligibility judgements. Characteristically, they have considered the following:

- complexes of deviations from native speaker norms (prosody, phonemic segments, accentedness) rather than individual factors
- speaker characteristics as manifested in selected samples of L2 English
- assessments of native speaker judges

This article focuses on a single factor, lexical stress, with a view to determining what emphasis it should be given in pronunciation instruction. Regarding intelligibility as a two-way process, it emphasizes the perceptions of listeners rather than the productions of speakers. It takes account of the extent to which English is today employed in international contexts by contrasting the effect of misplaced stress on NLs with its effect on NNLs.

The discussion is presented against a background of well-attested findings from cognitive psychology and speech science that have featured relatively little in accounts of second language acquisition (SLA). Underpinning the study is a view that the psycholinguistics of first language (L1) speech processing provides an important key to an understanding of the factors contributing to intelligibility.

INTELLIGIBILITY

The Construct

The notion of intelligibility has become central to the teaching of pronunciation. In 1949, Abercrombie famously remarked that "language learners need no more than a comfortably intelligible pronunciation" (p. 120). The idea was slow to feed through to practice, but in the 1970s many English language teachers worldwide came to recognize that it was unrealistic, time-consuming, and potentially inhibitory to aim for a native-like accent, and that such a goal might not necessarily represent the learners' wishes. They abandoned traditional checklist approaches to pronunciation instruction and instead adopted intelligibility as their criterion.

The first challenge lies in deciding how to define *intelligibility*. Much discussion of the construct has suffered from a failure to arrive at a clear consensus. Smith and Nelson (1985) note that terms such as *intelligibility* and *comprehensibility* are often used interchangeably. They suggest restricting the first to the recognition of word forms and utterances and the second to the construction of meaning. A similar distinction has been adopted by two major researchers in the field, Munro and Derwing (1995; Derwing & Munro, 1997), who apply it procedurally in their research methodology. Intelligibility is measured by the ability of judges to transcribe the actual words of an utterance, comprehensibility by an overall rating of how easy it is to understand a given speaker.

This division between local formal recognition and global processing effort makes sense when examining overall communicative success and failure. But Munro and Derwing's transcription task clearly embraces within intelligibility factors such as contextual transparency or syntactic

and lexical knowledge. It would not appear to correspond to the type of intelligibility specified in pronunciation teaching contexts as a desirable teaching goal; the latter is an altogether narrower construct involving the impact of strictly phonological factors on understanding.

This article consequently restricts the term *intelligibility* to features of the speech signal. As used here, it refers to the extent to which the acoustic-phonetic content of the message is recognizable by a listener. On this analysis, intelligibility forms part of a wider construct of comprehensibility.

The distinction helps to position the present study within an area of specifically phonological enquiry. It also serves to separate perceptual evidence at phoneme, word, and tone-group levels from higher level evidence such as world knowledge, which originates outside the signal.

Contributory Factors

A major challenge for pronunciation specialists is to identify which features of natural speech contribute most significantly to intelligibility. This information is critical if they are to set priorities and to devise principled programs of instruction. Gimson (1978) initiated discussion on this issue by proposing a simplified phonological system (*rudimentary international pronunciation*) for nonnative speakers, which accepted modifications to certain problematic sounds (principally, voiced consonants and diphthongs) on the grounds that they would not greatly affect the speaker's ability to be understood. The sixth edition of Gimson's pronunciation guide (1994, pp. 283–287) makes more concrete suggestions as to the tolerances that might be acceptable when aiming for *minimum general intelligibility*. It proposes a vowel system of six short vowels, seven long vowels, and three diphthongs, but the proposals for consonants license only minor deviations from native-speaker norms.

A more radical approach to the issue of pronunciation course content is found in Jenner's (1989) proposal that there may be a *common core* of phonological features that, if taught systematically, would establish a framework for intelligible speech. Jenkins (2000) extends this view, suggesting that a new international form of English may evolve that retains those features most critical to intelligibility between nonnative speakers but suppresses others that are peripheral.

Segmental vs. Suprasegmental Features

It is by no means easy to determine which features of pronunciation should be prioritized on the grounds that they enhance a learner's

intelligibility. In particular, opinion has been divided as to the relative contribution made by segmental features (phonemes) and suprasegmental ones (word stress, rhythm, and intonation, often referred to collectively as *prosody*).

The present study focuses on suprasegmentals. There are two principal reasons for this decision. Firstly, research evidence suggests that suprasegmentals play a more important role than segmentals. Anderson-Hsieh, Johnson, and Koehler (1992) compared the relative contributions made to intelligibility by prosody, segmentals, and syllable structure. Within 11 different language groups, they found that the score for prosody was most significantly associated with the overall score for pronunciation. A similar finding was reported by Anderson-Hsieh and Koehler (1988), who concluded that "prosodic deviance may affect comprehension more adversely than does segmental deviance" (p. 562). In a related finding, Derwing, Munro, and Wiebe (1998) studied the effects of both segmental and suprasegmental instruction on learners' comprehensibility ratings and concluded that the latter had a greater effect on performance in communicative contexts.

A possible explanation for the low impact of segmental errors is found in psycholinguistic accounts of first language (L1) processing. Commentators such as Marslen-Wilson (1987, p. 95) have suggested that an L1 listener could only succeed in finding a match for a mispronounced word such as *shigarette* if the process operated on a principle of best fit rather than exact match. In the context of the intelligibility debate, this means that the occasional insertion of a nonstandard phoneme should not grossly disrupt communication.

The second consideration was a methodological one. Studies of L1 listening (e.g., Elman & McClelland, 1988; Ganong, 1980) have demonstrated that lexical knowledge plays an important part in how a listener processes a group of phonemes, especially where the signal is imprecise. This finding means that listening researchers have difficulty disentangling the effects of phoneme error from those of whole-word matching. Suppose that an NL has no problem understanding a nonnative speaker who produces the word *veshtables*. One might conclude that the substitution of /ʃ/ for /ʤ/ does not impair intelligibility, making /ʃ/ a low-priority item for the teacher. However, an equally valid interpretation would be that the listener had drawn on his or her knowledge of the existence of the word *vegetables* and applied a best fit strategy. Or, more likely, the truth might lie in an interaction between the two sources of evidence (McClelland & Elman, 1986). This perspective posed practical problems at a segmental level for the kind of transcription study projected for this article; it was felt that a feature at lexical level or above would prove a more manageable target.

Lexical Stress

A number of studies (e.g., Anderson-Hsieh et al., 1992; Anderson-Hsieh & Koehler, 1988; Derwing et al., 1998) have sought to assess the impact of suprasegmental features on intelligibility by contrasting it with the impact of other factors such as phoneme accuracy or accentedness. They have tended to treat prosody as a unitary construct. However, it seems probable that the various constituents of prosody (lexical stress, intonation, the relative duration of weak and strong syllables) contribute to intelligibility in different ways. The present study focuses principally on lexical stress, though it also considers the variations in vowel quality and syllable duration that are associated with it. There are a number of reasons for believing this particular feature to be important.

Firstly, lexical stress plays a central role in determining the profiles of words and phrases in current theories of metrical phonology (Hogg & McCully, 1987). Secondly, psycholinguistic studies of *slips of the ear* (Bond, 1999) have shown that native English listeners place greater reliance on the stressed syllables of words than on the briefer unstressed syllables. When native speakers are asked to *shadow* (repeat back) speech containing pronunciation errors, they are three times more likely to detect and reproduce an example of misplaced stress than one of a mispronounced phoneme (Bond & Small, 1983).

Thirdly, some accounts of speech processing (e.g., Grosjean & Gee, 1987) raise the possibility that the stressed syllable of a word provides the listener with a code that links directly to the representation of the word in the mind. On this hypothesis, the syllable /næ/ guides the search for the word *international* as does the syllable /tɒg/ for the word *photography*.[1] Applying this notion to an L2 context, differences might be observable between the importance accorded to stressed syllables by a native speaker with long-established procedures for locating words and that accorded by a nonnative speaker who has not yet fully established a set of appropriate codes. Some speakers may not ever acquire such codes: Peperkamp and Dupoux (1992) suggest that speakers of fixed-stress languages do not even store lexical stress as part of their phonological representation of words.

The most compelling reason for investigating lexical stress lies in an L1 study that produced striking evidence that certain types of stress misplacement appear to seriously impair intelligibility. Cutler and Clifton (1984) switched the stressed syllable in disyllabic words such as *canTEEN*

[1] A stumbling block for this theory is the relative nature of stress as explored in metrical phonology. How would a listener respond to the secondarily stressed [pek] in *expectation* given that it is heard before the syllable [teɪ], which potentially forms the access code? Might it trigger a search among words such as *impeccable* or *respectable*?

and *TURbine* and, using reaction time measurements, studied the extent to which the substitution impaired the ability of NLs to identify the words. They reported no effect on intelligibility in the case of a leftward shift of stress (as in words like *CANteen*.) However, intelligibility was somewhat impaired when the shift was rightward (as with *turBINE*); and, most importantly, intelligibility was seriously compromised when the shift of stress also entailed a change of vowel quality, as it might in a switches such as *laGOON* → *LAgoon* ([lə'guːn] → ['lægun]) or *WAllet* → *waLLET* (['wɒlɪt] → ([wɒ'let]).

Cutler and Clifton studied word forms in only two conditions: one with correct stress placement and one with both stress and quality shifted. However, an interim condition is conceivable where these words suffer a shift of stress without an associated change of quality. The English phonological system restricts schwa to weak unstressed syllables, but that does not eliminate the possibility of a variant such as [wɒ'təː] for *WAter* in the speech of a nonnative speaker. It is even easier to envisage instances where stress might be added to syllables featuring the other weak quality vowels /ɪ/ and /ʊ/, forming variant forms such as ['ɪnʤɔɪ] (*ENjoy*) or ['tʊmɒrəʊ] (*TOmorrow*). So the Cutler and Clifton findings can be extended by examining the effects on intelligibility when a weak quality syllable is accorded stress with no change of quality. This study also extends the enquiry to NNLs to discover if they suffer the same loss of intelligibility as NLs.

METHODOLOGY

The most widely adopted approach to researching intelligibility (Derwing & Munro, 1997; Munro & Derwing, 1995) asks NL judges to evaluate samples of nonnative speech for prosody, accentedness, and other features, and then to rate them objectively for intelligibility—often on the basis of how accurately they have been transcribed. The present study adopts a very different approach. It employs a single set of exemplars in which two linked variables (lexical stress and vowel quality) have been manipulated.[2] The material is played not only to NL judges but also (with international intelligibility in mind) to a group of NNL judges.

The point should be made that this is a controlled experimental study whose purpose is to focus on a single phonological feature. In this respect it differs from earlier work, which has considered the relative contributions of a range of factors. The research question strictly concerns whether lexical stress does or does not contribute to intelligibil-

[2] The approach of Hahn's (2004) study of sentence stress and intelligibility is not dissimilar.

ity, and, if it does, in what way. There is, of course, no implication that lexical stress is the only factor that contributes to the construct.

Materials

Two groups of 12 disyllabic English words were used (Table 1). The first group followed a SW (strong-weak) pattern in standard British English (e.g., *SECond*). The second followed a WS (weak-strong) pattern (e.g., *beGIN*). The words in both groups were chosen because they were of a frequency higher than 100 per million in the British National Corpus (Leech, Wrayson, & Wilson, 2001)[3] and were likely to occur at an early stage in any course of L2 instruction. Of the WS items, a number had initial syllables that resembled prefixes (*return, prevent*) but none was a true prefix in the form of a separable morpheme (as in *re+visit* or *pre+historic*).

Within each group, several words were identified where a shift of stress might be expected to lead to a change of vowel quality. The criteria for determining the probability of this happening were

- the derivational morphology of the item in question (*woMEN*), or
- the existence of analogous words (*seCOND* as in *secondment*), or
- a change of vowel quality in a contrastive stress situation (*I said "CONtain" not "DEtain"*).

TABLE 1
Disyllabic Words Employed in the Study

SW Words	WS Words
husband	enjoy
second	forget
different	contain
person	provide
Friday	today
women	
follow	begin
coffee	decide
water	discuss
listen	inform
money	perhaps
notice	prevent
	return

[3] Figures were taken from the whole corpus rather than the spoken section since the NNL participants had had a comparatively short exposure to everyday speech. The exception to the 100 limit was *inform* (58), preferred to the more frequent *include* (353) because it preserves the [n] allophone in the first syllable.

In all, six words were selected from the SW group and five from the WS group. They form the first subset in Table 1. These words were to be recorded in three conditions:

1. standard form; example: ['sekənd].
2. shift of stress with no change of weak vowel quality (S); example: [se'kəːnd].
3. shift of stress with change to full vowel quality (S + Q); example: [sɛ'kɒnd].

The remaining 13 words fell into two types: those without a weak quality syllable so that a change of quality was not possible (e.g., *FOllow* → *foLLOW*) and those with a weak quality syllable that would remain the same even if accorded stress (example: *LISten* → *listEN*). These words were only to be recorded in the first two conditions (standard form and stress shifted). Table 2 makes clear how the material was distributed.

This gave a set of 59 items, to which one more (*about* in standard form) was added to make the number 60. The standard forms of the target words were included alongside the stress-shifted variants for two reasons. Firstly, they acted in effect as foils, ensuring that the subject treated the test as a transcription exercise involving actual words rather than nonwords. Secondly, they provided a baseline for the normal intelligibility of these words in isolation, against which could be measured any decline in intelligibility when the words occurred in stress-shifted form. The baseline was particularly important in the case of the NNLs. It was reasonable to assume that they knew the target words, but that did not necessarily entail that they would recognize them in their spoken form.

A male native speaker of British English with no knowledge of phonology or background in language teaching was asked to record the items, following simple orthographic cues that indicated where stress or vowel quality shifting was involved. Each item was spoken five times. The recording was made digitally on a computer using a studio-standard microphone.

The five different versions of each item were then analyzed using a Soundblaster Audigy 2 ZS Platinum Pro editing program (Creative

TABLE 2
Distribution of Items Across Conditions of Lexical Stress

Condition	SW words	WS words
Standard	12	12
Stress-shifted	12	12
Stress + vowel quality shifted	6	5

Technology, 2003) operating at 16 bits and 22kHz. The aim was to choose a set of exemplars that were as consistent as possible. Three important acoustic factors influence the perception of stress in English: *intensity, duration,* and *pitch movement* (Fry, 1958). Special attention was given to duration because it is a major indicator of weak versus full vowel quality (Crystal & House, 1990), and it is the variable easiest to monitor. The duration of each stressed syllable was checked so as to give preference to those exemplars where it was closest to a ratio of 1.5 times the duration of the unstressed syllable (the mean for English as identified by Delattre, 1965). Once a provisional set of 60 exemplars had been identified, each was further checked for the relative level of intensity of its stressed syllable. The final set of items was submitted to two judges with phonetic training, who confirmed that the relevant syllable in each bore unambiguous stress marking and that there had been no shifts in vowel quality in the S (stress shift only) items.

The acoustic-phonetic content of the recorded materials might arguably have been controlled more rigorously by using synthesized speech or splicing together pieces of connected speech. However, the relationship between stressed and unstressed syllables is a complex one, the product of extremely fine timing decisions by the speaker that closely reflect his or her current speech rate (Janse, Nooteboom, & Quené, 2003). It was therefore considered preferable to record natural utterances by a naive speaker and to select good exemplars from among them.

Presentation of Stimuli

The material was presented as single words rather than embedded in context-neutral sentences such as "The next word you will hear is . . . ". This approach leaves the study vulnerable to the suggestion that the items might have been harder to recognize if they had occurred in running speech. However, whole-sentence contexts can compromise the validity of transcription tasks by allowing participants time to reflect on and revise what they have written. Experience also suggests that neutral carrier sentences often lead speakers in any case to produce word forms resembling citation ones—especially when, as here, they have to modify a standard pronunciation.

The 60 items were randomized into 3 sets of 20 by drawing lots, but in such a way that each set contained only one version of a given word. In addition, the three conditions were distributed as evenly as possible, so that each set contained 8 S items out of 24 and at least 3 S + Q items out of 11. There were never more than 2 consecutive items representing the same condition. Two additional words, *thousand* and *expect,* were inserted

at the beginning of each set to enable participants to normalize to the speaker's voice and to accustom themselves to the transcription task. The 3 sets of items were then recorded on to CD-ROM and finally on to cassette.

Participants

The materials were played to two groups of participants: one NL and one NNL. The NL participants were pupils at a British secondary school whose mean age was around 15. They were tested in three classes of similar ability levels (N = 28, N = 28, N = 26). Each class was asked to listen to and transcribe one set of the recorded items. The tests were carried out by the normal class teachers. None of the participants reported any hearing difficulties.

The NNL participants were students of English at two leading British private language schools: International House London and Eurocentre Cambridge. They were in 12 separate classes; four (N = 30) were tested on Set A of the recorded items, four (N = 22) were tested on Set B and four (N = 25) were tested on Set C. The participants were controlled for level; all had been tested on entry by their school and classified as intermediate. They represented a range of first languages. The principal L1 groups were Korean (N = 16), Japanese (N = 15), Mandarin Chinese (N = 10), Spanish (N = 9), Portuguese (N = 6), and Italian (N = 6). Results for each of these groups are examined independently. Other languages were German (N = 4), French (N = 2), Arabic (N = 3), Farsi (N = 1), Russian (N = 1), Polish (N = 1), Czech (N = 1), Georgian (N = 1), and Bulgarian (N = 1). The script of one Arabic speaker in Set C was rejected because the spelling was hard to interpret. This reduced Set C to 24 and left a total NNL population of 76.

Each NNL was asked to specify how many years he or she had studied English. Information was sought on the date of arrival in the United Kingdom; most participants had arrived no more than 3 weeks before the test and none had arrived more than 8 weeks before. No participant had previously spent an extended period in an English-speaking country. All participants were informed of the nature of the research and appropriate consents were obtained.

Procedure

Participants were in their normal class groups and in rooms with good acoustics (in the case of the NNLs, the rooms were specially designed for language teaching). One version of the materials was played to each class. With the NLs it was played by the class teacher under instructions

provided by the researcher; with the NNLs, the test was sometimes conducted by the class teacher and sometimes by the researcher. Good quality, steady-state cassette players were used.

The participants were given an answer sheet on which to provide personal details and to write their transcriptions. The instructions on the answer sheet were worded as follows:

> You will hear a voice saying a number followed by a word. Try to write down what you hear. Altogether, you will hear 22 English words. You will know some of the words, but some may be new to you. Try to guess the spelling of the word even when you do not recognize it.

The test administrator gave similar oral instructions. The intention was to leave open the possibility that the recorded items might represent known words or words that fell outside the participants' current vocabulary.

The scripts were analyzed, making due allowance for possible orthographic uncertainties. Given the proficiency level of the NNL participants, it proved possible throughout to determine where the respondent was aiming for a known word but had slightly misspelled it and where the target item was regarded as a new word. The one exception was the Arabic speaker in Set C whose script was rejected.

RESULTS

NL Responses

NL erroneous responses were calculated by participants. Z-tests revealed a significant difference in all three experimental groups between the level of error when transcribing a word in its standard form and the level when transcribing it with shifted stress (Set 1: $z(1) = 6.04$, $p < 0.001$; Set 2: $z(1) = 6.38$, $p < 0.001$; Set 3: $z(1) = 2.94$, $p < 0.001$). However, only one group showed a significant difference between the level of error for standard form items and the level for those where both stress and quality had been modified (Set 1: $z(1) = 0.68$, $p = 0.50$, n.s.; Set 2: $z(1) = 1.95$, $p < 0.05$; Set 3: $z(1) = 0.37$, $p = 0.71$, n.s.). Low standard deviations in the two shifted conditions indicated a low level of variation between participants.

The NL responses were then classified by items according to whether the target word had been recognized. Table 3 shows the results for, respectively, the 20 items in their standard form, the same items with stress shifted and a subset of the same items with both stress and vowel quality adjusted.

A chi-square test for independence indicated that the differences between responses in the three conditions were highly significant: $\chi^2 (2) =$

TABLE 3

NL Correct Responses Across Three Conditions of Lexical Stress

Condition	Correct	Total	%	Mean per item	SD
Standard (N = 24)	627	656	95.58	26.12	2.13
Stress shifted (N = 24)	503	656	76.68	20.96	6.66
Stress + vowel quality shifted (N = 11)	267	302	88.41	24.27	2.53

101.80, $p < 0.001$. Level of recognition of the target items in their normal form was then contrasted with recognition in the two variant conditions. Significant differences were confirmed by z-tests. For shifted stress, $z(1) = 3.31$, $p < 0.001$; for shifted stress and quality, $z(1) = 2.50$, $p < 0.01$.

Overall, stress shifting, with or without an accompanying change of vowel quality, was found to impair intelligibility. However, the impact of changing both stress and quality emerges in this data as less of a threat to intelligibility than the effect of shifting stress alone. This finding conflicts with that of Cutler and Clifton (1984).

An attempt was made to quantify the overall loss of intelligibility that resulted from the changes in lexical stress. The figures were derived by subtracting total percentage recognition in the nonstandard conditions from total percentage recognition of the same items when presented in standard form. The difference was then quoted as a proportion of the standard form figure. The resulting figures suggested overall decrements in intelligibility of 19.78% for S variants and 7.50% for S + Q variants.

The items were then grouped according to whether the nonstandard forms involved a rightward or a leftward shift of stress. Again, intelligibility of the standard form was compared with intelligibility of the variant forms. The results for the S condition are shown in Table 4 and for the S + Q condition in Table 5. The z-test figures indicate the statistical significance of the differences between the standard-form condition and the shifted ones.

A rather more complex picture now emerges. The degree to which intelligibility is impaired appears very much to reflect the direction of the stress shift. When stress is shifted leftward, the impact is considerably less than when it is shifted right. Strikingly, when it is shifted leftward with an accompanying change of vowel quality, it does not lead to any statistically significant reduction in intelligibility.

This finding was checked by comparing the results for the S conditions with the results for the S + Q conditions. With right-shifted items,

TABLE 4

NL Responses by Direction of Shift: Stress-Shifted Condition

Condition	Correct	Total	Mean per item	SD	Significance
Standard (N = 12)	312	328	26.00	1.86	
Left shifted (N = 12)	287	328	23.92	2.19	$z(1) = 2.19$, $p < 0.05$
Standard (N = 12)	315	328	26.25	1.86	
Right shifted (N = 12)	233	328	19.42	6.81	$z(1) = 3.35$, $p < 0.001$

the difference was significant ($z(1) = 3.13$, $p < 0.001$); with left-shifted items, however, it did not reach significance ($z(1) = 1.29$, $p = 0.20$, n.s.). Even within the S condition, there was a significant difference between the effects of right and left movement. Results for right-shifted items (N = 12) showed that intelligibility was more extensively impaired than with left-shifted items ($z(1) = 2.18$, $p < 0.05$).

NNL Responses

The NNL participants covered a range of L1s. The results were therefore first analyzed by subject, then combined into language groups. The six groups showed a considerable degree of consistency (see Figure 1). For all six groups, the effect on intelligibility of shifting stress alone was greater than the effect of shifting stress and vowel quality (though the differential between the two variant conditions was smaller with the Korean and Japanese groups). A curious finding was that for the Spanish

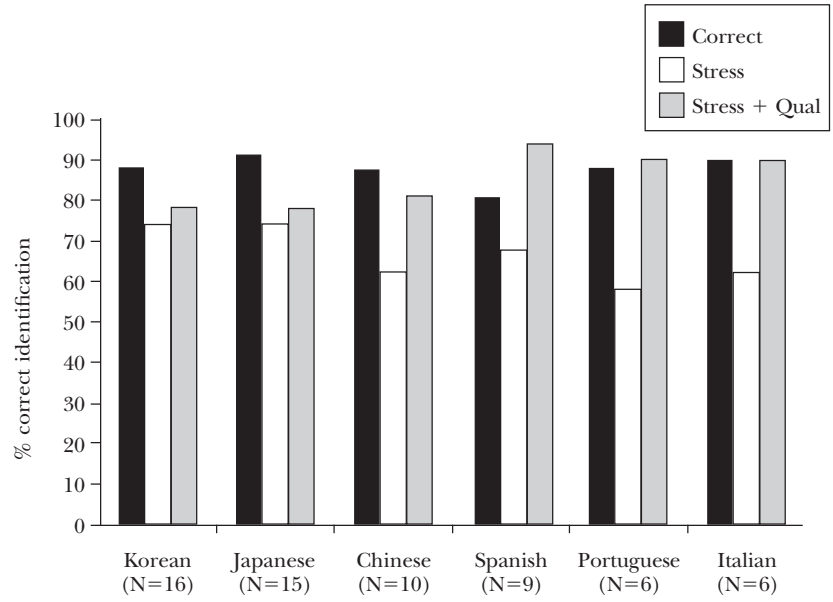
TABLE 5

NL Responses by Direction of Shift: Stress + Vowel Quality Condition

Condition	Correct	Total	Mean	SD	Significance
Standard (N = 5)	132	136	26.4	1.67	
Left-shifted (N = 5)	131	138	26.2	1.79	$z(1) = 0.18$, $p = 0.86$, n.s.
Standard (N = 6)	160	164	26.67	2.42	
Right-shifted (N = 6)	136	164	22.67	1.86	$z(1) = 3.21$ $p < 0.001$

FIGURE 1

Effects of Shifting Stress and Vowel Quality: Six Language Groups



group, the change of stress and vowel quality appeared to enhance intelligibility.[4]

A chi-square test of differences compared the correct responses of the six language groups across the three conditions. The result, χ^2 (10) = 4.38, p = 0.99, n.s., supported the null hypothesis of no significant difference between the groups.

This particular finding was checked using an analysis of variance, on the assumption of a normal population distribution.[5] Nine members were randomly chosen from each of the four largest language groups. Their results were analyzed across the three conditions with scores for the S + Q condition standardized by doubling them. A two-factor repeated measures ANOVA indicated a main effect of stress placement (standard, S, or S + Q): F (2, 107) = 10.95, $p < 0.001$. The participant's

[4] Too much should not be made of this result, given the small number of participants (N = 9). However, the effect chiefly occurred with a leftward shift of stress and full vowel quality. These conditions might have assisted speakers of Spanish, a language where penultimate syllable stress predominates and where prefixes are not relegated to weak syllables of short duration as they are in English.

[5] Thus avoiding the dangers of a familywise error rate if the chi-square test were to be repeated on subsections of the same data.

L1 was not a significant factor: $F(3, 107) = 0.47$, $p = 0.70$, n.s. However, there was a borderline interaction between the L1 and the effects of stress placement: $F(6, 107) = 2.18$, $p = 0.052$.

It would thus appear that (at least in respect to these materials) the major factor determining the results was the nature of the acoustic-phonetic signal rather than the participant's L1. This result is perhaps unsurprising. At their level of proficiency, the participants might be expected to have developed a degree of sensitivity to the acoustic-phonetic cues marking English stress. Furthermore, stress is a widespread phenomenon in the languages of the world. Some of the features that mark it (intensity and duration) contribute importantly to the processing of nonspeech signals such as music and would appear to be universals of the human auditory system.

Henceforth, the NNL participants were treated as a single group. Table 6 summarizes the responses by items of all NNL participants ($N = 76$) across the three conditions. Like the NL responses in Table 3, they show a marked decrement in intelligibility in the S condition and a less marked one in the S + Q condition. A chi-square test for independence showed a highly significant difference between the three conditions: $\chi^2(5) = 72.69$, $p < 0.001$. Using z-tests, participants' recognition of the target items in their normal form was then contrasted with recognition in each of the two stress-shifted conditions (S and S + Q). The differences were found to be significant. For shifted stress, $z(1) = 3.01$, $p < 0.001$; for shifted stress and quality, $z(1) = 11.38$, $p < 0.001$.

As with NLs, an attempt was made to quantify the loss of intelligibility that resulted from the changes in lexical stress. Using the same method, the overall decrement in intelligibility in the S condition was calculated at 21.28%, while the decrement in the S + Q condition was 7.10%. These figures are remarkably similar to those reported for the NNL group (19.78% and 7.50%, respectively), even though the NNLs started from a lower baseline in that their recognition of items in their standard form was less accurate than that of the NLs.

TABLE 6

NNL Correct Responses Across Three Conditions of Lexical Stress

Condition	Correct	Total	%	Mean	SD
Standard (N = 24)	530	608	87.17%	22.08	4.49
Stress shifted (N = 24)	422	608	69.41%	17.58	5.78
Stress + vowel quality shifted (N = 11)	229	280	81.79%	20.82	5.25

The results were then subdivided to examine the effects on intelligibility of shifting the stress to the left as against the effects when it was shifted to the right. Using recognition of the standard forms as a benchmark, Tables 7 and 8 show intelligibility under the two main conditions. The z-test figures in the final column indicate that, as with the NL results, the difference between the recognition of standard forms and the recognition of right-shifted forms reaches statistical significance, but that the difference between the recognition of standard and of left-shifted forms does not.

Thus striking parallels emerged between the levels of identification achieved by the NLs and those achieved (from a lower base) by the NNLs. Figure 2 shows intelligibility of the items in standard form compared with their intelligibility when lexical stress was manipulated. It shows that, for both groups of participants, intelligibility was reduced considerably more by shifting stress rightward without any change of quality than by shifting it leftward. The loss of intelligibility was lower when the stress shift was accompanied by a change of quality, but in this instance also, a leftward shift had less impact than a rightward one.

DISCUSSION

Findings

The study affords a number of possible insights into how lexical stress placement contributes to intelligibility. Firstly, it demonstrates a significant decrement in intelligibility when stress is shifted to an unstressed syllable without an accompanying change of quality. This finding held as true in the case of items such as *follow,* where the stress was shifted to a full-quality syllable (a decrement for NL participants of 48.15%), as in

TABLE 7
NNL Responses by Direction of Shift: Stress-Shifted Condition

Condition	Correct	Total	Mean per item	SD	Significance
Standard (N = 12)	275	304	22.92	3.58	
Left shifted (N = 12)	240	304	20.00	5.77	$z(1) = 1.49$, $p = 0.14$, n.s.
Standard (N = 12)	255	304	21.25	5.28	
Right shifted (N = 12)	182	304	15.17	4.88	$z(1) = 2.93$, $p < 0.01$

TABLE 8

NNL Responses by Direction of Shift: Stress + Vowel Quality Condition

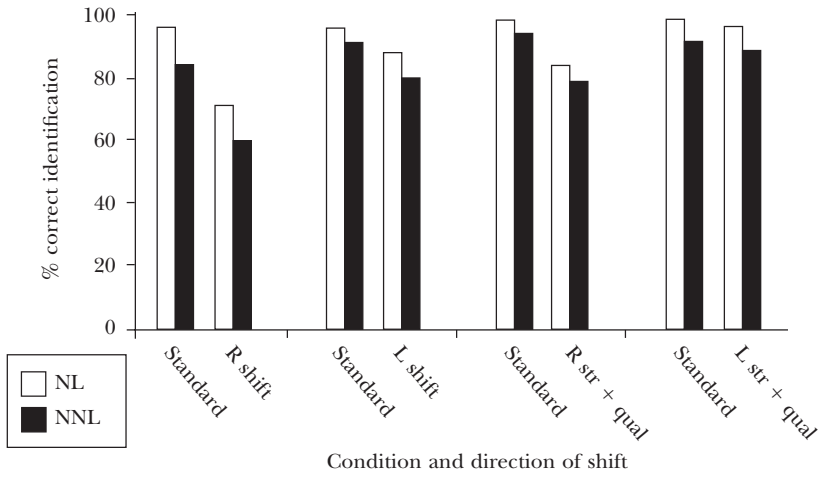
Condition	Correct	Total	Mean per item	SD	Significance
Standard (N = 5)	110	122	25.33	3.45	
Left-shifted (N = 5)	111	128	25.33	3.50	$z(1) = 0.06$, $p = 0.95$, n.s
Standard (N = 6)	141	152	23.5	3.45	
Right-shifted (N = 6)	118	152	19.67	3.50	$z(1) = 1.91$, $p < 0.05$

the case of items such as *listen,* where it was shifted to a weak-quality syllable (a decrement of 25.93%). However, where the stress shift was accompanied by a change of vowel quality (from weak to full), the loss of intelligibility was considerably less marked.

The finding appears to run counter to that of Cutler and Clifton (1984), although their study differed in two important ways. It did not include cases where stress was shifted to weak quality syllables with no change of quality (['wɪmɪn] → [wɪ'mɪ:n]). In addition, Cutler and Clifton used reaction time data to measure difficulty in recognizing the non-standard forms, whereas this study concerned itself with the proportion of cases in which intelligibility was entirely lost.

FIGURE 2

Intelligibility by Items: NL vs. NNL



One possible explanation of the finding is that the loss of intelligibility in the case of NLs was attributable to the novelty of hearing a weak-quality vowel in a stressed syllable. But fewer than half of the target words had schwa in their weak syllable; others featured weak quality /ɪ/ or /ʊ/ vowels, which certainly occur in lexically stressed contexts (*winter, football*).[6] A more likely explanation lies in the finding (Bond & Small, 1983) that NLs (and by extension experienced NNLs) learn to place faith in the *island of reliability* afforded by the lexically stressed syllable of a word. It has even been suggested, as noted earlier, that such syllables provide access cues to words in the listener's mental word store. It is therefore to be expected that processing will be disrupted if

1. the stressed syllable contains a vowel of low informativeness (Gimson, 1994, p. 136), such as the high frequency schwa or /ɪ/.
2. the stressed syllable does not provide an access cue to the appropriate set of lexical candidates: Stressed /ɪ/ in *woMEN* would link to *diMINish, MINute,* and possibly even stored chunks such as *coME IN*.

So why the difference when the shift of stress is accompanied by a change of quality? One explanation is that a substituted full vowel is more informative than schwa or /ɪ/ and is also likely to be longer and thus more perceptually reliable. Another is that the full-quality syllable often bears a close relationship to the orthographic form of the word and may thus (at least for NNLs) provide a clearer and more reliable cue than the short, weak-quality one it replaces. It is interesting that substitution also assisted recognition by NLs, suggesting that this kind of orthographic link contributes to their processing, too.

The second major finding was that intelligibility is much more frequently impaired when lexical stress is shifted to the right than when it is shifted to the left. This finding confirms a similar one by Cutler and Clifton (1984). One reason may be that English specifically licenses a leftward shift of lexical stress in certain circumstances, especially for purposes of contrast:

> *I said INform them, not REform them.*
>
> *Instead of CONtaining the rioters, they DEtained them.*

It thus seems likely that our phonological representation of items such as *inform* or *contain* allows some degree of latitude to accommodate these stress-shifted forms.

Similarly, some of the WS items featured in the study had initial weak syllables that correspond exactly to frequent function words (*for-* in *forget, con-* in *contain, be-* in *begin, to-* in *today*). The words in question have two

[6] Though admittedly not in an open syllable, as in *money*.

forms, a weak unstressed one and a full one capable of bearing stress; listeners have to learn to accept either. A process of analogy may extend this tolerance to prefixes and prefix-like syllables that are auditorily identical to functors.

Within the two groups, the responses were very consistent. One of the more striking findings was the extent to which results in the NNL group were sustained across L1 divisions. This finding suggests that, at this level of proficiency and regardless of L1, learners have acquired the ability to recognize and exploit the cues provided by lexical stress.

There was also a consistent between-groups pattern of behavior, with NLs and NNLs responding to nonstandard lexical stress in remarkably similar ways. Although NNLs began from a lower base in terms of recognizing items in standard form, the two groups manifested a similar loss of intelligibility across the two variant conditions. This finding ran counter to an early hypothesis that NNLs might have become habituated to the uncertain stress placement of their peers and thus might show themselves significantly more tolerant than NLs of deviations from the stress norm.

CONCLUSION

English lexical stress does not normally serve to distinguish between lexemes: Cases such as *FOREbear/foreBEAR* cited by Cutler (1986) are relatively rare.[7] The issue at stake in this study is therefore purely and simply whether incorrect placement of lexical stress by a nonnative speaker renders the form of words unintelligible to an interlocutor.

Attempts to quantify the effects of misplaced stress suggested an overall decrement of 19.78% for NLs and 21.28% for NNLs. Cutler and Carter (1987) have calculated that polysyllabic items of the type studied here constitute 40.59% of all words in English conversation. This finding might suggest that the threat to intelligibility posed by incorrect placement of lexical stress is, relatively speaking, quite small: affecting only around 8% of content words if every word were misstressed. However, it should be borne in mind that the items tested here were in citation form; they would presumably be much harder to identify if occurring in running speech, where word pronunciation is more subject to variation.

Furthermore, the consequences of misinterpreting even a small number of content words can be extremely damaging to global understanding. Some EFL/ESL practitioners hold to the view that perceptual

[7] Stress certainly serves to identify word class in a limited set of about 300 noun-verb pairs (*an EXport, to exPORT*), but this characteristic of the English lexicon is unlikely to lead to any breakdown of understanding caused by a misattribution of meaning.

errors are relatively trivial because listeners can compensate for them by drawing on information provided by context in the form of the listener's understanding of what has been said so far. This argument is circular, however, because *context* in this sense depends entirely on how much of the previous input the listener has been able to decode accurately. To give an example, if the misstressed item *foLLOWED* occurs toward the beginning of an utterance, it might well lead the listener to construct a mistaken meaning representation around the notions of *load* or *flowed;* this representation would then shape the listener's expectations as to what was likely to follow. Evidence is emerging (Field, 2004) that NNLs place great reliance on interpretations at word level, even in the face of contradictory evidence.

One might conclude, then, that lexical stress should be an area of concern for pronunciation teachers, though perhaps not a top priority. However, two limitations of the present study indicate that stress allocation is potentially more important than has been suggested.

Firstly, the study featured a postperceptual recognition task: The transcription gave participants time after hearing the recording to form conclusions about what they had heard. A further study is needed that investigates the extent to which misplacing lexical stress increases the listener's processing load at the moment of hearing. Let us accept, for the sake of argument, the notion that the stressed syllable of a word provides an access code or, at the very least, a reliable signpost to its identity. Shifts in stress will then clearly create *garden path* situations: For example, stressing the second syllable in *foLLOW* will lead the listener toward a cohort (Marslen-Wilson, 1987) that includes *low, local,* and possibly *below,* and away from the target word. The consequent increase in processing demands might well limit the listener's ability to perform under the pressures of a conversational context.[8]

Secondly, the present study focused on single words in isolation. But one of the major functions of lexical stress is to assist listeners in dividing up whole stretches of connected speech by providing cues as to where words begin and end. In many languages (Hyman, 1977), this function is achieved by a fixed stress on the first or last syllable of a word. In English, NLs appear to employ a *metrical segmentation strategy* (Cutler & Norris, 1988) which exploits the fact that around 90% of content words in connected English speech are either monosyllabic or bear lexical stress on their first syllable (Cutler & Carter, 1987). By working on the assumption that each stressed syllable[9] marks the onset of a new word,

[8] See Hahn (2004) for garden path evidence on sentence stress.

[9] The term *stressed* as used here is somewhat of a simplification. Cutler and Norris refer to *strong* syllables, by which they mean syllables not bearing weak vowel quality. However, other commentators (e.g., Grosjean & Gee, 1987) use stress as their criterion.

NLs are able to divide up the speech stream with a fair degree of accuracy.[10] Thus, if lexical stress is wrongly distributed, it might have serious consequences for the ability of the listener, whether native or nonnative, to locate words within a piece of connected speech.

APPLICATIONS TO PRACTICE

The findings of this study, and the additional considerations just cited, suggest that pronunciation teaching programs should rank lexical stress at a medium level of importance. It is interesting that this conclusion is not dissimilar to that reached by Dalton and Seidlhofer (1994, p. 73), who, using a very different rationale, point out that lexical stress is easier to teach than intonation but has greater communicative value than the phoneme. This final section reviews a number of established procedures for teaching lexical stress and comments on their usefulness in the light of some of the findings and issues that have been discussed.

Stress Perception Exercises

English marks lexical stress in three different ways: by duration, loudness, and pitch movement. For this reason, teacher handbooks (Dalton & Seidlhofer, 1994, pp. 97–99) and pronunciation materials often recommend exercises to train the ear in distinguishing stressed from unstressed syllables. However, all the NNL participants in this study, whatever their L1, effectively used stress as a cue to word identity—suggesting that stress recognition may not be such a serious problem as is sometimes assumed. Archibald (1998, p. 184) records a much lower rate of error in perceiving stressed syllables than in producing correctly stressed words.

Weak Quality Exercises

Practice in lexical stress often includes exercises in recognizing and producing weak syllables (Dalton & Seidlhofer 1994, pp. 99–100). In the present study, both NLs and NNLs had little difficulty in identifying items where weak vowels had been replaced by full ones. This finding suggests that weak quality does not provide an important part of the

[10] It has been suggested (Cutler, Mehler, Norris & Segui, 1992) that NNLs do not develop this technique as an automatic process. However, recent research (Field, 2001) indicates that they do indeed make use of stress (or at least duration) as a word boundary marker.

access information that is used when recognizing content words and that it does not contribute importantly to intelligibility. One can conclude that practicing weak quality syllables need not be a priority for the pronunciation teacher. This precept, however, specifically concerns weak syllables that are part of larger content words; it should not be extended to function words, which were not part of the study. It seems likely that the weak quality of many functors provides an important cue that distinguishes them from content words and thus contributes importantly to the intelligibility of longer stretches of speech (Grosjean & Gee, 1987).

Presentation by Rule

One way to present English lexical stress is through a set of rules (Dalton & Seidlhofer, 1994, pp. 101–105; Kenworthy, 1987, pp. 63–65). Clearly, mastering a rule is very different from internalizing a stress pattern for a specific item. That said, this article has drawn attention to regularities of the English lexicon that may assist teaching. Students should be made aware that around 90% of content words in running speech are monosyllabic or begin with a stressed syllable (Cutler & Carter, 1987) and that the remaining 10% includes quite a large number that contain prefixes or initial syllables that resemble them.

Presentation by Vocabulary Item

Lexical stress is specific to the individual word. Clearly, therefore, the responsibility for presenting this feature falls as much on the vocabulary teacher as on the pronunciation teacher, and the oral practice of new items should include attention to their stress pattern. This is particularly important if, as postulated, the stressed syllable forms part of the access code by which the language user locates a word in his or her mental word store.

Analogy Exercises

Teachers' handbooks and pronunciation manuals greatly favor analogy exercises (Kenworthy, 1987, pp. 60–63), where students group words with similar stress patterns, find the odd word out, and so on. This approach has strong psychological validity. Corpora of *slips of the tongue* suggest that words sharing similar stress patterns are closely linked in the mind and that a word's stress pattern forms an important cue when a speaker is trying to retrieve it (Aitchison, 2003, pp. 141–142).

Applying Lexical Stress to Segmentation

As noted, an important function of lexical stress is that it enables listeners to divide stretches of continuous English speech into separate words. This segmentation technique is a critical listening skill, and it should be practiced. One might expose listeners to short stretches of authentic speech a little above their language level, then show them how they can decode the recording into words by identifying and transcribing the stressed syllables within it.

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Listening to Estuary English in Singapore

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Republic of Singapore

In Singapore, many people are not familiar with Estuary English (EE), the variety of English becoming popular in much of southern England. In the current study, when students listened to interviews with EE speakers and were asked to transcribe orthographically what they heard, most of them had severe problems. Features of pronunciation that contributed to the difficulties included th-fronting, t-glottalling, and fronting of close back vowels, and in many cases even the context of the conversation did not help to resolve the confusion, for example, when *three* was pronounced with an initial [f]. This article suggests that some exposure to nonstandard accents such as EE would be valuable for students of English because they are quite likely to encounter EE speakers.

When students of English learn a British model, they are usually exposed to a standard variety such as Received Pronunciation (RP) (Cruttenden, 2001), otherwise known as BBC English (Roach, 2000) or standard southern British (SSB) (Deterding, 1997; International Phonetic Association, 1999, p. 4). Although SSB certainly provides a suitable model for pronunciation and prepares learners for understanding news broadcasts and most other television and radio programs originating from Britain, students travelling to England find that most people there do not actually speak with this accent (Brown, 1990, pp. 46–47). The difficulty arises not just because of the merging of some sounds and deletion of others in connected speech (Shockey, 2003) but also because of the widespread occurrence of nonstandard accents. In fact, only a minute proportion of the estimated 320 million native speakers of English have an RP accent (Cruttenden, 2001, p. 81), so if learners become familiar with only that style of pronunciation, they will not be very well prepared for interacting with actual native speakers of English.

This article investigates the degree to which Singaporeans can understand British English speech that deviates substantially from the RP

accent. It discusses factors that contribute to problems in comprehension and describes the reactions of Singaporeans when listening to nonstandard speech. Finally, it considers the implications of this study for teaching pronunciation and listening comprehension.

ENGLISH LISTENERS IN SINGAPORE

When considering aspects of intelligibility, it is important to consider the dichotomy between native speaker (NS) and nonnative speaker (NNS) (Field, 2003). The NS-NNS distinction is, of course, not straightforward (Davies, 2003), and in the context of Singapore, it is especially problematic. Many Singaporeans, including all the subjects in the current study, have excellent ability in English, and some of them grew up speaking English as their first language (Gupta, 1994). Although the Singapore educational system places considerable emphasis on proficiency in a second language, generally Mandarin Chinese, Malay, or Tamil, some students find that they are fluent only in English. It seems inappropriate to term such speakers as *nonnative*.

However, the so-called new variety of English found in Singapore is certainly rather different from the old Englishes of places such as Britain, the United States, and Australia, and it is useful to have some way to represent this difference. For the situation in Singapore, a three-way distinction between inner, outer, and expanding circles of English (Kachru, 1985) seems more appropriate than the NS-NNS dichotomy, with the local variety belonging firmly within the outer circle.

In one respect, though, the teaching of English in Singapore does pattern after NNS instruction: In English language classes in Singapore schools, explicit attention is given to the teaching of listening and pronunciation, something that is less commonly done in NS language classes but is nearly always a key component in NNS language instruction. In this respect, therefore, the issues of intelligibility that arise in the current study have relevance for teaching in all NNS environments.

ESTUARY ENGLISH (EE)

In England, pronunciation is often a controversial topic, and any deviation in the broadcast media from a standard accent such as RP may give rise to howls of protest from some quarters. Even a former minister of education has been known to get involved by condemning the EE accent as "slovenly" and "mumbling" (Wells, 1997, p. 46). EE refers to a variety of speech that has become widespread far beyond its origins near London and along the estuary of the River Thames (Przedlacka, 2002;

Rosewarne, 1994), and it represents a style of pronunciation somewhere between the prestigious RP and Cockney, the accent associated with working-class speakers in London (Rosewarne, 1994). Some people observe that the influence of London popular speech on standard pronunciation in England is something that has been happening for at least 500 years (Mugglestone, 2003; Wells, 1997), so there is no need to invent a new word to describe this phenomenon. However, the fact that the term *Estuary English* has recently gained widespread popularity suggests that it does refer to something meaningful. Despite his evident distaste for the term, Wells (1997) acknowledges that it is here to stay.

An earlier study by Chia and Brown (2002) demonstrates that Singaporean listeners have a low regard for EE, rating it as poor both in terms of intelligibility and the level of education the speaker is perceived to have, but their study did not investigate the extent to which Singaporeans have difficulty understanding EE pronunciation or exactly which features of EE pronunciation cause comprehension problems. These issues are investigated in the current study.

FEATURES OF ESTUARY ENGLISH

Perhaps the two most prominent features of EE are glottalling of /t/ in syllable-final position, so that *network* becomes [nɛʔwɜ:k] and *quite nice* is [kwaɪʔ naɪs]; and vocalization of dark /l/, so that *milk* is pronounced as [mɪok] and shell is [ʃɛo] (Crystal, 2003, p. 166; Rosewarne, 1994; Wells, 1997).

Two other features of EE that are often mentioned are tensing of the final vowel in words like *happy,* which becomes [hæpi:]; and yod coalescence so that *Tuesday* is [tʃu:zdeɪ] (Rosewarne, 1996; Wells, 1997). Cruttenden (2001, p. 82) regards this use of [i:] in place of final /ɪ/ as a well-established change in RP itself, already typical of the majority of RP speakers, and furthermore that yod coalescence is a well-attested process in many words in all varieties of English, so that for virtually everyone, the [tj] in *nature,* for example, is [tʃ].

One less frequently noted feature of EE is the fronting of close back vowels, but in his discussion of how to transcribe EE, Wells (1994) does include the suggested transcription of *goose* as [gʉ:s], and Przedlacka (2002, p. 86) reports that 69% of all instances of /u:/ in her EE data were realized with a central or front vowel for her young middle-class speakers from the Home Counties (the counties that surround but do not include London). It is possible that this feature is not usually attributed to EE because it occurs widely as a variant in general RP (Cruttenden, 2001, p. 123). Przedlacka (2002, p. 165) reports that her two RP informants used a partially fronted variant for /u:/. Cruttenden

(2001, p. 121) further mentions an increasing tendency in RP for lack of rounding and also centralization for /ʊ/, especially in a few common words such as *good*.

One feature usually attributed to Cockney but not to EE is th-fronting, that is, replacing the dental fricatives /θ/ and /ð/ with [f] and [v], respectively (Maidment, 1994; Wells, 1997). However, Przedlacka (2002, p. 76) reports that th-fronting is actually quite common among her EE informants, with 23% of her middle-class EE data exhibiting a labiodental rather than dental fricative, and even some speakers who otherwise had an RP accent used /f/ in *mouth* and *nothing* (Przedlacka, p. 169). Furthermore, Kerswill (2003) observes that th-fronting is not restricted to London but is found in urban centers hundreds of miles to the north, including Derby, Newcastle, and Glasgow. Of particular interest is his report of a fairly large concentration of th-fronting near the south coast of England, not far from the hometown of the two EE speakers in the current study (Kerswill, p. 233). It seems that th-fronting in Britain is rather widespread.

A strongly stigmatized feature that is usually claimed to occur only among working-class Londoners but not among EE speakers is the glottalling of /t/ in word-medial intervocalic position, with *butter* as [bʌʔə] and *water* as [wɔʔə] (Rosewarne, 1994). This phenomenon does sometimes occur with two of the speakers in the current study, even though neither of them has any close links with London.

SPEECH DATA

Three young British male subjects were each recorded talking to the author for 5 minutes. The recordings took place in the Phonetics Laboratory at the National Institute of Education (NIE) in Singapore, a room that is quiet but not soundproofed. In all cases, the speech was recorded directly onto a personal computer using Computerized Speech Lab software from Kay Elemetrics (2001), with a Shure SM48 dynamic microphone positioned to ensure a high-quality recording. The conversation was mainly about recent vacations. The recordings comprise the interviews with BM1, BM2, and BM3, which appear in the interviews section of the *NIE Corpus of Spoken Singapore English* (for a full description of the recording conditions, see Deterding & Low, 2001a). All the data are available online (Deterding & Low, 2001b).

BM1 was 19 years old. He had lived in Cambridge, England, till the age of 10, when he moved to Singapore, where he lived at the time of the recording. While in Singapore, he attended an international school, and he speaks with a fairly standard nearly RP accent with no trace of a Singa-

pore accent and little evidence of EE influences. BM1 is the interviewer's son.

BM2 was 20 years old, and BM3 was 18. They are brothers, and their father is a university lecturer, a colleague of the interviewer. They grew up mostly in Bognor Regis, a small town near Southampton on the southern coast of England, though they spent a couple of years in Oman while their father was teaching there. BM2 had lived in London for a few months when he was very young, but BM3 had never lived in London. BM2 was a university student in his second year at Bath University, and BM3 a high school student in his final year at an international school in Singapore. Both speakers exhibit instances of intervocalic glottalling of /t/, and BM2 sometimes replaces his dental fricatives /θ/ with [f]. As discussed earlier, both of these pronunciation features are usually regarded as attributes of the Cockney accent associated with working-class London speech rather than with EE, but because neither of the speakers had lived in London for very long, it would be inappropriate to describe their accent as Cockney.

The interviewer, also British, grew up in London. He has lived most of his life in Britain, except for 5 years in Taiwan and the past 10 years in Singapore, and he speaks with (near-)RP accent with very few traces of EE. Although at 46 he was rather older than the subjects, he came from a similar social background and was familiar with most aspects of life in Britain, such as locations of the major sports venues. Consequently, the interviews exhibit considerable shared background knowledge between the participants, some of which would not be available to the Singaporean listeners. The subjects all seemed fairly relaxed and were not self-conscious during the conversation.

LISTENING DATA

There are two separate sets of listening data: transcriptions by research assistants, henceforth termed the *RA transcriptions*, and listening comprehension and commentary by undergraduate students as part of an academic assignment, henceforth the *assignment comments*. These two sets of listening data are described separately.

All the listeners were NIE undergraduates in Singapore, studying English language as part of their bachelor of arts training to become primary school teachers. All had excellent ability in English, having had English as the medium of education since primary school, and all had selected English language as their specialist subject at NIE.

RA Transcriptions

Six NIE undergraduate students were paid as research assistants to listen to all of the data and transcribe it orthographically as best they could. They were provided with the speech files on a CD-ROM, which they could either take home and listen to on their own computers or transcribe using the computers in the NIE Phonetics Laboratory.

Four of the RA students (R1 to R4) had just completed their 2nd year at NIE. They had all taken an introductory course in phonetics but had had no further in-depth phonetic training. All were female, ethnically Chinese, aged between 22 and 26. They all elected to listen to the speech at home.

The other two RA students (R5 and R6) had just completed their 4th year at NIE and were about to embark on a final honors year in English language. They had both taken a number of courses in phonetics and were planning to do research in phonetics during their honors year. Both were ethnically Chinese. R5 was female, aged 33. R6 was male, aged 30. They both chose to use the equipment in the Phonetics Laboratory to transcribe the speech.

The students' differing backgrounds in phonetics was one variable affecting the success of the transcription. R5 regarded the task as a challenge that she was determined to solve, and as a result, after a huge amount of time and effort, she was able to decipher the speech accurately in all but a few cases. In contrast, some of the others, particularly R3, were less persevering, and in some cases simply gave up in frustration, leaving a blank line together with a question mark in their transcriptions. Overall, the transcriptions show a range of responses to the difficulties that these Singaporean students encountered in trying to understand the EE data.

Assignment Comments

Twelve Singaporean undergraduates were asked to listen to a short extract of about 40 seconds from one of the EE recordings, either BM2 or BM3, transcribe what they had heard orthographically, and comment on the features of the speech. This work was part of an assignment for a 3rd-year elective they were taking on English phonetics and phonology. Each student was assigned a different extract that they could either download on to their home computer or listen to using the equipment in the NIE Phonetics Laboratory. Because the course required them to learn to use the equipment, many of them chose to work in the Phonetics Laboratory.

Seven of the students were ethnically Chinese, three were Malay, and two Indian. Ten were female and two were male. All of them were between 21 and 26 years of age.

Of the seven Chinese students, three had previously participated in the RA exercise described earlier (R2, R3, and R4). Because the task was different, with this assignment task requiring them to analyse and discuss the features of the speech rather than simply transcribe it, their earlier experience in listening to the data did not appear to interfere with the comments and observations they provided.

RESULTS

The two separate kinds of listening data provide complementary insights into the problems of listening to EE in Singapore. Because all six RAs attempted to transcribe all the speech data, the transcriptions provide a thorough overview about which parts of the data are most difficult for Singaporeans to understand. In contrast, the assignment comments offer insights into the Singaporeans' reactions and impressions when listening to EE.

Results of the RA Transcriptions

The RAs had almost no problems transcribing the speech of BM1, apart from a few names, such as Koh Samui, a holiday island in Thailand, which was written as "Kusemui" (R2), "Kesermui" (R3) and "Cosomree" (R4). Though the RAs were not asked for their impressions, R1 did add the comment that BM1 "is a lot clearer in terms of speech clarity. . . . and he articulates his speech without any slang." The fact that all the RAs could transcribe the speech of BM1 successfully indicates that they are quite familiar with an RP accent and can understand it without much difficulty. The speech of BM1 will not be discussed further.

The speech of BM2 and BM3 caused rather more problems. As one might expect, the listeners had difficulty deciphering names of places in Britain. For example, when BM3 was talking about applying for universities, he said, *I'm looking at Durham as well* (BM3b, 0:07),[1] and all the RAs except R5 missed it; R4 transcribed it as "I look dumb as well." When the same speaker said that, in Nottingham, *you've got Trent Bridge Cricket*

[1] Recorded interviews and transcripts are available from Deterding and Low (2001c). In the citation, "BM3" is the speaker, "b" is the extract, and "0:07" is the time into the interview when the quotation occurred.

Ground (BM3b, 0:37) none of the RAs got it; R6 suggested "you got the travel bridge cooking around."

Of course, these errors are of little consequence. Failure to pick up one or two names would be unlikely to interfere with successfully continuing a conversation so long as the listener could follow the gist. However, many of the problems the RAs encountered indicate rather more substantial difficulties extending well beyond the occurrence of unfamiliar names. In some cases, BM2's and BM3's pronunciation prevented the listeners from making any sense at all of long stretches of the speech.

Although BM2 and BM3 exhibit widespread /l/-vocalization, this feature did not cause any problems because it also occurs widely in Singapore English (Deterding & Poedjosoedarmo, 1998, p. 157). Tan (2003) reports that about 65% of dark /l/s are vocalized in educated Singapore English.

Similarly, glottalisation of /t/ in word-final position did not cause a problem because this feature also regularly occurs in Singapore English (Deterding & Poedjoseodarmo, 1998, p. 158). However, use of a glottal stop for a medial /t/, particularly between two vowels, as in words such as *city,* did cause misunderstanding. Table 1 shows the attempted transcriptions of BM3 saying *Nottingham City* with a glottal stop for both the /t/s. R1 simply gave up when trying to deal with this utterance, and both R3 and R4 failed to come up with anything for the first half. Note, however, that R2 transcribed *city* as "see," and R6 wrote "limousine." It seems clear that these listeners failed to interpret a medial glottal stop as a /t/, and it is also possible that tensing of the final vowel in *city* may have contributed to the problem because both R2 and R6 heard a long vowel [i:].

The glottalisation of medial /t/ in *a nice city* spoken by BM2 also caused difficulties; all but one of the RAs missed it (see Table 2). The data in Table 2 illustrate a further problem: As a result of th-fronting, *thought* was transcribed as "fought" by R2 and as "for" by R4, while R3 completely gave up. Not all instances of th-fronting caused such problems,

TABLE 1

Erroneous Transcriptions of *Nottingham City*

then Nottingham City's er … ground just a few minutes away (BM3b, 0:39)	
R1	???
R2	and that you'll never see is uh, granges feel it's way
R3	??? a few minutes away
R4	??? grounded a few minutes away
R6	and not limousine is er Daram just a few minutes away

TABLE 2

Erroneous Transcriptions of *a nice city*

	I thought that was … er a nice city it's … (BM2d, 0:02)
R1	Thought that was nicely East.
R2	fought I was, er … mostly is
R3	??? er ???
R4	for that was … er … I see … it's
R6	I thought that was … er … nicer it's

so *accommodation and things like that* (BM2d, 0:08) was transcribed correctly by all six RAs, even though *things* was pronounced as [fɪŋz]. However, other instances of th-fronting did cause widespread difficulties, particularly *three* pronounced as [fri:] by BM2 (Table 3).

It seems, then, that when th-fronting creates a possible word in English, such as [fri:], it causes a more serious problem than when the result is not an English word, such as [fɪŋz]. However, listeners have problems even in some instances when the resulting pronunciation does not constitute a plausible word. For example, Table 4 shows how four of the RAs were confused by the pronunciation of *through* as [fru:].

Avoidance of dental fricatives is in fact also extremely common in Singapore English. Moorthy and Deterding (2000) report that, in conversational speech, even educated Singaporeans avoid use of /θ/ in about 60% of the words where the sound might be expected in other varieties of English. In Singaporean English, however, although [f] regularly occurs in place of /θ/ in final position, so that *with* tends to be [wɪf] and *north* may be [no:f], when /θ/ occurs in initial position, a speaker is more likely to use an alveolar plosive in place of a dental fricative, so *three* is often pronounced as [tri:] (Deterding & Poedjosoedarmo, 1998, p. 157). This may explain why the Singaporean listeners did not understand [f] as a replacement for /θ/ in initial position. This issue is discussed further in connection with the assignment comments.

TABLE 3

Erroneous Transcriptions of *three nights*

	we were only there for three nights (BM2e, 0:06)
R1	we don't have enough free nights
R2	what I really don't have free life
R3	???
R4	we don't have free licence
R6	we don't have free life.

TABLE 4

Erroneous Transcriptions of *through*

	we got the train through it (BM2b, 0:30)
R2	we've got the train ferenot
R3	???
R4	we got a train trun
R6	you've got to try pro no

Another phonetic feature of BM2's and BM3's pronunciation that caused difficulties was the fronting of the close back vowel /ʊ/. For example, the quality of the vowel in one occurrence of *good* (BM3f, 0:07) is more similar to that expected for /ɪ/ than for /ʊ/ in RP pronunciation (Deterding, 1997). Given the fronted quality of the vowel in this word, it is perhaps not surprising that none of the Singaporean listeners understood it and that some heard it as "gig" (Table 5). Fronting of /ʊ/ also occurred with the word *looked* as pronounced by BM2, and this caused difficulties for three of the listeners (Table 6). Note that both R2 and R4 heard the word as having the front vowel [ɪ], giving "writ" and "live," respectively.

Quite apart from the problems arising from the segmental features of EE speech evident from these data, speaking rate may also have contributed to the RAs' difficulties; BM2 especially was at times talking quite fast. For example, the utterance *the places in Europe to be honest because it's a bit more* consists of 16 syllables and it was spoken in 1.86 seconds, representing a syllable rate of 8.6 syllables per second, which is rather faster than the range of 3.3 to 5.9 syllables per second reported by Roach (1998) as normal for English, and transcribing this utterance was problematic for all but R5 (Table 7).

Finally, some of the RA attempts are truly bizarre. For example, R6 transcribed *I don't know, I didn't particularly fancy those that much* (BM2g,

TABLE 5

Erroneous Transcriptions of *quite good*

	it turned out quite good (BM3f, 0:07)
R1	a ?? teller ??
R2	ig tenner quite
R3	it turned out quite ???
R4	it kind of quite gig
R5	ten o'clock gig
R6	a tenor quite gek

TABLE 6

Erroneous Transcriptions of *looked*

I looked around the campus (BM3b, 0:25)	
R2	I writ on the campus
R3	??? campus
R4	I live around the campus

0:31) as "internet object, fansicles or what jet." It is hard to devise any kind of explanation for this transcription.

Results of the Assignment Comments

Most of the students attempting the transcription reported that the task was rather difficult. A typical comment: "Transcribing this speech sample is a tedious and at times, frustrating process as it is difficult to decipher." This concurs with the findings of Chia and Brown (2002) that EE speakers are given a low score for intelligibility by Singaporean listeners.

Some of the comments were quite condemnatory, stating, for example, that the speaker "gives me the impression that he is not making a conscious effort to pronounce his words properly, hence a sense of laziness is felt in his speech" and also that he "seems to be slurring most of the time, thus portraying his speech to be lazy . . . [he] almost made my blood boil because I could hardly understand his words." One common observation of the EE data was that "the speaker's voice seems to fade away especially towards the end of a sentence." It is unclear if this tendency to fade away is a widespread feature of EE or if it is just characteristic of these two speakers.

The comments of the student who was allocated the extract that included the utterance *we went out a few times, we were only there for three*

TABLE 7

Erroneous Transcriptions of a Fast Utterance

the places in Europe to be honest because it's a bit more (BM2a, 0:28)	
R1	the place around the ???
R2	the place in Europe is cool is a bit more
R3	the pace ??? is a bit more
R4	the place in Europe's round, it's cool, it's a bit more
R6	the place in Europe's runner 'cos it's a bit more

nights (BM2e, 0:04) are particularly revealing. (Compare Table 3 for the RAs' transcription of this utterance.) She wrote:

> I am certain that it was "free nights" that I heard, although this sentence and the previous sentence do not make sense as they contradict each other. I do not know what the speaker means when he said that they went out a few times and they did not have free nights.

Even though her transcription clearly made no sense, it did not occur to the student that [fri:] might actually represent *three*. And even though replacement of syllable-final /θ/ with [f] is very common in Singapore English, the listener could not understand it when the same substitution occurred in initial position. It is often assumed that top-down processing plays a major part in comprehension, but in this case it seems that no top-down processing was able to help this listener overcome her conviction that [fri:] represented the word *free*. This finding is similar to those in Jenkins (2000), where NNS–NNS intelligibility was heavily influenced by bottom-up processing constraints.

DISCUSSION

In listening comprehension, it is of course not necessary for listeners to understand every single word in most circumstances so long as they can pick up the gist of the message. Unless the purpose of the listening is something highly specific, for example to get directions, failure to hear the names accurately therefore would not constitute a serious problem. In fact, the interviewer himself misunderstood *Oman* (BM2b, 0:10) as "Amman," but this error did not interfere in any way with successfully continuing the conversation, and he only discovered it later, when seeking to ascertain details of BM2's biographical background.

However, the widespread mistranscription of substantial stretches of the data, the regular gaps in the transcriptions for some of the RAs, and the frustration and even anger expressed by many of the listeners indicate that the problems were not restricted to a few names. In some cases, the Singaporeans were unable to comprehend even a broad outline of the message. Of course, it is very likely that BM2 and BM3 would have been perfectly capable of adapting their speech to make themselves understood if they had been speaking to a Singaporean. However, it is also true that many people are not able (or not willing) to modify their speech in this way, and the potential for misunderstanding when learners of English are trying to talk to people from Britain is therefore considerable.

Implications for the Teaching of Pronunciation

It is not suggested that BM2's and BM3's speech style represents a suitable model for teaching pronunciation to English language learners, though of course this might one day change if EE becomes "the RP of the future" (Rosewarne, 1984). Indeed, Rosewarne (1996) himself states that, for teaching pronunciation, standard accents should be adopted because "these are the most widely intelligible varieties of English" (p. 16).

However, the current study does shed light on the teaching of pronunciation. First, when proposing a lingua franca core of just those sounds that are essential for communication, Jenkins (2000, p. 137) suggests that the dental fricatives might be omitted because they are hard for many learners to master and furthermore because many native speakers also do not use them. However, the data presented here clearly show that replacing a dental fricative with another sound does sometimes cause misunderstandings. When speakers use unexpected sounds to replace the dental fricative, even listeners who avoid dental fricatives in their own speech have difficulty comprehending the speech. It seems, therefore, that for maximum intelligibility, the use of dental fricatives should be encouraged in pronunciation teaching, though of course other sounds are far more important and effort might be allocated to dental fricatives only if time permits.

Second, it is worth noting that vocalization of dark /l/ did not cause any problems in the current study. Of course, this happens partly because it is a feature that also occurs widely in Singapore English, but because the perceptual difference between dark /l/ and vocalized /l/ is small, it seems unlikely that the latter would cause serious problems even in other places. Wells (1982, p. 259) suggests that vocalized dark /l/ might soon become completely standard in English, just as historically /l/ has disappeared from words like *walk* and *calm*. It is suggested, therefore, that pronunciation teachers need not insist that students achieve lateral contact in a dark /l/ because it is probably on its way out in most varieties of English and because /l/-vocalization does not cause serious problems for most listeners. Brown (1989, p. 300) similarly advocates that a vocalic /l/ may be accepted as a pronunciation target because it is easier for many speakers to pronounce than dark /l/, it attracts little stigma, and it poses little threat to intelligibility.

Implications for the Teaching of Listening

Most learners of English will need to interact with a wide range of speakers who use nonstandard pronunciation, including many nonnative speakers (Jenkins, 2000), so it is important that, as part of their training

in listening comprehension, students are prepared to deal with varying styles of pronunciation and are not just exposed to a few select standard accents. Field (2003) notes that the key factor in comprehending an accent is familiarity with it, so pronunciation teachers should aim to present students with varied input. Nowadays, it is easy to obtain listening materials for a range of different accents of English from Web sites such as the IDEA site (Meier & Muller, 1998), and it is important that teachers regularly present such materials to students to enhance their skills in listening comprehension. It is not, of course, possible to offer students listening data from all the different accents that they might encounter. However, exposing learners to varied input is likely to help them deal with unfamiliar pronunciation styles.

If students are to be exposed to a range of accents, EE seems a good candidate because an increasingly large number of speakers from England are adopting this mode of pronunciation. Experience in playing some of the recordings in the current study to a range of Singaporeans confirms that they are often initially bewildered. However, after a transcript is provided and some features of the pronunciation are explained, particularly the use of [f] for /θ/, the glottalling of intervocalic /t/, and the fronting of close back vowels, the listeners can easily be guided to a complete understanding of the speech, and furthermore they find the exercise both interesting and rewarding. It is therefore suggested that this kind of listening activity, with a carefully guided introduction to some examples of nonstandard pronunciation, can constitute an extremely valuable component of a listening course.

CONCLUSION

The students in the current study were surprised to find that many young people in Britain do not sound like the British lecturers they are accustomed to listening to. EE appears to be increasingly widespread in England, and some vestiges of EE are even reported among members of the Royal Family as well as the prime minister, Tony Blair (Mugglestone, 2003, p. 280). Thus, it is important for learners of English to have some exposure to it, as well as to a range of other common but nonstandard pronunciation styles, so that they will be better prepared for communicating in English with people from around the world.

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Phonetic Parameters and Perceptual Judgments of Accent in English by American and Japanese Listeners

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In this study we identify some of the phonetic parameters that correlate with nonnative speakers' (NNSs) perceptual judgments of accent in English and investigate NNS listener perceptions of English from a World Englishes point of view. Our main experiment involved 3,200 assessments of the perceived degree of accent in English of two speaker groups: 11 Japanese and 5 Americans. Two additional and separate phonetically untrained listener groups, one composed of 10 Japanese and the other of 5 Americans, did the perceptual assessments. A follow-up auditory analysis by two phonetically trained listeners and an acoustic analysis showed that the untrained Japanese listeners used primarily nonsegmental parameters (intonation, fluency, and speech rate) to make perceptual judgments, whereas segmental parameters had a relatively minor role. Untrained American listeners exhibited the opposite pattern: Segmentals (especially /r/ and /l/) figured prominently, and nonsegmentals played a relatively minor role. Our study shows how native-speaking (NS) and NNS listeners perceive degree of accent in English in fundamentally different ways, each based on different phonetic parameters. We consider the implications that our findings might have for a recently proposed phonological syllabus for English as an international language (EIL) designed with NNS-NNS interactions in mind.

In this article we investigate perception of accents in English by both NSs and NNSs of English. By *accent* we mean the perceived degree of

native or foreign accent in someone's speech, a characteristic style of pronunciation determined by (or at least associated with) the speaker's regional, social, or linguistic background. We want to discover what pronunciation characteristics two different groups of listeners, one NS and the other NNS, respond to when they assess accent. Given NNSs' current tendency to use English internationally, we also want to determine to what degree NSs and NNSs perceive accent similarly. Finally, we are interested in the widely held assumption in pronunciation teaching that NNSs should strive to acquire the NSs' accent and whether a recently proposed model of English pronunciation would be more teachable than current American and British models for NNS–NNS interactions.

Accents involve phenomena that are at once social, perceptual, and phonetic. We assume five facts about accents:

1. Everyone has an accent.
2. All accents are linguistically equal.
3. Any two accents can in certain circumstances be socially unequal.
4. Every accent is speaker-listener dependent.
5. The intelligibility (recognition) of words spoken with any accent is also speaker-listener dependent.

We assume, in addition, that all five points apply equally well to accents that speakers acquired as children with their native language and accents they acquired as adults (begun in their teens or older) with their second or additional language. In this article, we will refer to perceived degree of accent as simply *accent*.

The study of foreign or NNS accents in English has been a topic of research for several decades. Two early studies, Suter (1976) and Purcell and Suter (1980), like many subsequent studies, treated the speaker's first language (L1) as essentially a social variable, claiming that speakers were more likely to have a second language (L2) accent (e.g., in English) simply because of their L1. They did not claim which characteristics of NNSs' English pronunciation signaled accent to the American listeners. Like much of the research literature on accent, these early studies focus on nonphonetic variables. Piske, Mackay, and Flege (2001), in a comprehensive summary of the research literature that investigated factors related to accent, found that the following factors are prominent: the speaker's L1; the age at which the speaker began learning the L2; how long the speaker has lived in the L2 environment; the speaker's gender, formal instruction, motivation, and language learning aptitude; and how frequently the speaker used the L1 and the L2. Except for L1, all of these factors are social factors, and even L1, as we have pointed out, is often treated as a social background factor.

A major portion of the pioneering research (e.g., Flege, 1981, 1984) and recent work on foreign accent and on selected aspects of adult perception, production, and acquisition of L2 pronunciation has been conducted by James E. Flege, working with associates in the Biocommunications Department of the University of Alabama at Birmingham in the United States. Much of Flege's work has been directed at developing, revising, and testing different facets of the speech learning model (e.g., Flege, 1995). These studies often involved a number of listener-raters, whose multiple perceptual judgments were averaged. The studies have revealed how accents are not only psychologically real but also gradable. Some speakers sound more (or less) native than others.

In our study, we address issues raised directly or indirectly by Jenkins (2000, 2002), who has proposed a new model of English, *English as a lingua franca* (ELF), and a phonological syllabus based on a *lingua franca core* (LFC) that is different from mainstream American English (GA) and British Received Pronunciation (RP), the two models of English most commonly taught internationally. Not owned by NSs, the LFC is intended to be more teachable than GA and RP, and it expresses "world ownership" (2000, p. 9) of English.

The LFC is largely based on Jenkins's own classroom-based research and field data, and interpretations of factors such as intelligibility, regional appropriateness, and teachability. Our understanding is that the LFC is a work in progress and that developing the model further will require more research involving NNSs. Jenkins (2002) explains:

> Given its primary concern to promote international phonological intelligibility, as well as the broader purpose of developing a research-based pedagogy, a new pedagogy for EIL must be based on evidence drawn from EIL (NNS-NNS) interaction and, above all, from NNS listeners. (p. 86)

In a discussion of intelligibility in interlanguage talk, Jenkins (2000) further observed that "few studies have been conducted from the perspective of L2 listeners, and even fewer with L2 listeners *and speakers*" (p. 73; emphasis in original). Thus, research involving NNS listeners and speakers appears to be crucial for empirically validating the LFC. Our study was motivated in part by the call for more research involving NNS listeners and speakers. In addition, we were already interested in NNS perception of English from a different but related research focus.

Whereas Jenkins investigated *intelligibility* (i.e., word recognition), we focus on perceived degree of accent. It is widely recognized that some aspects of accent can affect intelligibility. James (1998), for example, has noted that "foreign accent can erect barriers to intelligibility" (p. 213), and that "what is required is information concerning which phonological characteristics of particular ILs (especially those of the emergent New

Englishes) precipitate most intelligibility loss when distorted by foreign accent" (p. 213). Although we think that the research into intelligibility that James and Jenkins are calling for is important, we do not focus on intelligibility itself, but on perceptions of degree of accent, which we believe may have implications for intelligibility.

Regarding research methodology, Jenkins's studies (2000, 2002) are based primarily on her observations of NNS–NNS interactions collected in linguistically heterogeneous classrooms in the United Kingdom and in the field over a period of years. Our study, in contrast, was conducted in an environment similar to a laboratory. Additionally, whereas Jenkins's research included actual NNS–NNS communicative events, ours did not. Our study, however, involved large numbers of perceptual judgments collected directly from one set of NNS listeners from one linguistic background (Japanese) in response to the same acoustic stimuli in English spoken by both NSs and NNSs. Our follow-up study examining these judgments involved acoustic and auditory analysis by an American and a Japanese listener, both trained in phonetics.

Although we do not address intelligibility or teachability directly, we believe that the findings that we report in this article may provide insight into the types of issues that James and Jenkins raise. Findings about ease and difficulty of phonological perception, for example, could be useful to those who are considering which models of English might be more easily learned by a certain group of NNSs. We show how two different groups of listeners can interpret the same accent stimuli differently because each group attends to a different set of phonetic parameters when it rates accent. We suspect that how they assess accent might be related to how they are able to recognize the words of both NSs and NNSs.

We assume that the assessment of both NNSs' accent and intelligibility in English are related to the speaker's L1. The role of the L1 in L2 speech has been recognized for some time (e.g., Trubetskoy, 1969). In his speech learning model, Flege (1995) identified L1 (along with age of exposure), as one of two important determinants of accent. A key feature of our study was to have NNS (Japanese) perceptual assessments of English involving both untrained Japanese listeners and a Japanese researcher trained in phonetics who brought both linguistic training and native speaker intuitions to the task.

We then discuss accent in terms of distinguishable phonetic components. Our categories will be similar to some used previously. In a discussion of NS judgments of foreign accent, for example, Anderson-Hsieh, Johnson, and Koehler (1992) identified among the major areas of pronunciation the following: (a) segmentals, involving consonants and vowels and their modification or substitution for one another; (b) prosody or suprasegmentals, involving patterns of stress and intonation,

timing, phrasing, and rhythm; and (c) syllable structure, typically involving the addition or deletion of segments or syllables. We also consider two additional parameters: degree of fluency (observed through the number and placement of speaker pauses) and speech rate (measured acoustically in milliseconds).

THE CURRENT STUDY

The speech productions used for rating accent were recorded in the 1990s by Riney and Flege, who recorded 16 speakers at two points in time (42 months apart) performing four tasks: reading a word list, reading a sentence list, reading a paragraph, and spontaneously telling a story. One or more of these tasks has already formed the basis of three publications: (a) Riney and Flege (1998) found that 3 of 11 Japanese accents in English became more American sounding over time; 2 accents became marginally more American sounding; and 6 accents did not change. (b) Riney and Takagi (1999) found positive correlations between the 11 Japanese accents in English and their voice onset time for /p/, /t/, and /k/. (c) Riney, Takada, and Ota (2000) found a strong negative correlation between Japanese flap substitutions for English /r/ and /l/ and accent ratings. Although these three studies sought to identify the pronunciation features of Japanese English that signal degree of American accent to American listeners, the current study investigates this topic from a Japanese listener perspective.

The sentences and digital files that we used for this study were the same as those used in Riney and Flege (1998), which assessed Japanese speaker productions. We, however, used these sentences to assess Japanese listener perceptions of these productions to address four questions:

1. Can the Japanese listeners distinguish American and Japanese speakers from one another based only on their English productions?
2. Can the Japanese listeners identify, from among the Japanese speakers, those who sound most and least American?
3. Can the Japanese listeners identify those Japanese speakers who became more American sounding over time?
4. When the American listeners and the Japanese listeners assess the same Japanese speakers as sounding more (or less) American, to what extent do the two listener groups use the same phonetic parameters to make this perceptual judgment?

To investigate these four questions, 10 Japanese listeners who were untrained in phonetics (hereafter *untrained Japanese listeners*) assessed the productions of isolated English sentences read by 11 Japanese speakers and 5 American speakers (*American speakers*) during two sessions. For a

baseline comparison, 5 American listeners who were untrained in phonetics (*untrained American listeners*) rated the same sentences. Untrained listeners did not know the speakers' identity or when they were speaking. We also conducted two additional analyses: One was an acoustic analysis; the other was an auditory analysis involving two additional listeners, one American and one Japanese, who both had training in phonetics (*trained listeners*). The trained listeners were to help explain the untrained listeners' judgments.

We believe our study is important in a number of respects. We are aware of no previous studies that have used both NS and NNS speakers and listeners to examine NNS listeners' perception of accent in English. Nor do we know of any such studies whose findings have been used to assess the appropriateness of both traditional pronunciation-teaching models and the LFC.

THE EXPERIMENT

Method

Questions 1, 2, and 3 were addressed through a partial replication of Experiment 1 in Riney and Flege (1998), where 5 American listeners assessed the English accents of 11 Japanese speakers and 5 other American speakers at two points in time separated by 42 months. We used these assessments (i.e., accent ratings or scores) as a baseline comparison for our study. We also used Riney and Flege's digital recordings and replicated most of their procedures.

The 11 Japanese speakers (8 female, 3 male) were students at a small liberal arts university (SLAU) in Japan. At T1 (1992) the 11 Japanese L1 speakers were freshmen aged 18–20 years and at T2 (1995, 42 months later) they were college seniors. The control group of 5 American speakers (3 female, 2 male) were native-English-speaking Americans who had grown up monolingual in California and were students studying Japanese in a one-year program at SLAU. Except for the dates of the T1 and T2 recordings, the 5 American speakers and the 11 Japanese speakers were recorded at SLAU under identical conditions while reading five sentences (see Appendix A). The 160 sentences (16 speakers $\times$ 5 sentences $\times$ 2 times) were digitized at 22.05 kHz with 16-bit resolution, then normalized for peak intensity.

Each of the five sentences was assessed for accent by a different set of 5 untrained American listeners. Each sentence was randomly presented four times in a separate block lasting 10 to 15 minutes. The American listeners were told to rate each sentence by clicking a button numbered

from 1 to 9, where 1 signifies sentences perceived to have a strong foreign accent, and 9 signifies sentences perceived to have no foreign accent. The American listeners, who had no special knowledge of Japan or Japanese, were never told the ethnicity (Japanese) of the speakers. The American listeners were told to use intermediate numbers for sentences with intermediate degrees of accent and were urged to use the whole scale of 1 to 9, to rate pronunciation only (with no further explanation), and to ignore everything else. The first round of judgments of each sentence was practice and not counted; the final three rounds were counted and averaged. The 5 listeners' average ratings were combined and averaged to obtain a measure of each speaker's accent. The results (i.e., the accent scores for each of 16 speakers at two times) formed the baseline measure for accent.

There were six differences between the study by Riney and Flege (1998) and our partial replication:

1. We used untrained Japanese listeners.
2. We increased the number of listeners to 10.
3. We presented each sentence three times in a separate block of sentences and counted the final two judgments; Riney and Flege had presented each sentence four times and counted the final three.
4. Our study was conducted in Japan in Japanese.
5. Riney and Flege told their listeners that some of the speakers were American and others were from another country; Japan and Japanese were never mentioned. We told the Japanese listeners in our study in Japan that some of the speakers were American and others were Japanese and asked them to rate how native or American-sounding each accent was.
6. Riney and Flege presented the sentences using a Toshiba laptop, a local playback software, and desktop speakers; we presented the sentences via a Dell Optiplex GX-110 desktop computer, Superlab Pro (Cedrus, n.d.) playback software, and headsets.

Participants and Contexts

We planned for the two groups, Riney and Flege's (1998) 11 speakers and our 10 listeners, to be as similar as possible. All 21 Japanese participants were SLAU student volunteers who had responded to announcements in SLAU English language classes. They were paid a small honorarium. The 10 Japanese listeners (7 female, 3 male) in our study self-reported normal hearing. Nine were from 18 to 21 years old and college freshmen; the other (age 23) was a transfer from another

Japanese university. One had spent one year at a high school in the United States; none of the others had spent more than 3 months overseas. The 10 were enrolled across six different academic divisions at SLAU and were pursuing diverse fields of study. Eight hoped to live or work overseas in the future, and 6 had career plans for which they thought English would be an advantage. Nine reported scores for an institutional TOEFL given 2 months before this study. The TOEFL scores (mean 466; range 443–497) of the 9 Japanese listeners (obtained at the beginning of their freshman year at SLAU) were comparable to the TOEFL scores (mean 467; range 437–497) of the 11 Japanese speakers in Riney and Flege (1998). The TOEFL exams involved no speaking component; we suspect that our Japanese participants' speaking ability might be lower than ESL students in North America who had the same scores. All of our Japanese participants were still learning to speak English when they began our study, and none could have been considered to have had the competence in English associated with the term *bilingual*.

All 10 Americans (5 speakers and 5 listeners) and 21 Japanese (11 speakers and 10 listeners) involved in this study were *native speakers* of English and Japanese, respectively, as defined by Davies (2003): English or Japanese was their mother tongue, first language, dominant language, and home language. The 21 Japanese participants had grown up in Japan in an EFL setting (Celce-Murcia, Brinton, & Goodwin, 1996, p. 321), where only 1.3 percent of the total population of more than 125 million (Yoshida, 2003) were foreign residents; where Japanese "is spoken by virtually the entire population" (Shibatani, 1990, p. 89); where "there is no nativized English . . . on anything like the scale of Malaysia, Singapore and the Philippines" (McArthur, 1998, p. 18); and where, according to McKay (2002), "there appears to be little need to use English among the Japanese population as a whole" (p. 19). We assume that Japan is a context where monolingual NNSs study exonormative GA and RP varieties of English to enable them to interact with a variety of international speakers in diverse settings, including NSs of American English.

One reason for our assumption is that in the 1990s and through the time our study was conducted, the United States was the most popular destination for Japanese high school and university students ("Consultants' Report: Japan," 2003). At SLAU, during this period, the largest study abroad program was Study English Abroad, which sent 20 to 35 percent of its freshman class every summer to one of six English-dominant countries (Ireland, Canada, Australia, New Zealand, the United Kingdom, and the United States). In 2002, Riney read approximately 260 application letters for this program, in which students were

asked to state their motives for applying. One of the most frequent responses given was to speak English with native speakers.

We are aware that dialectal influences may sometimes be heard as foreign (Major, 2001, p. 10), that multiple English dialects are heard in Japan, and that our Japanese participants prior to our study were probably not uniformly exposed to English dialects. We believe, however, based on our experience, that GA is one of the most widely heard exonormative varieties of English in Japan. Related literature supports this notion: McArthur (1996), regarding universities, television, and the media; Crystal (1997), regarding Hollywood and film; Pennycook (1994), for the TOEFL; McCrum, Cran, and McNeil (1986), for "Coca-colonialism" (p. 32); and Jenkins (2000), regarding the position of GA as a "learning goal" (p. 16) in Japan preferred over RP.

We observed also that the published models for the study of English in Japan during the period of our study (1992 to 2003) were entirely exonormative. The models of pronunciation represented in dictionaries and textbooks in bookstores in Japan were variants of GA or RP. Dictionaries labeled "International" focused mostly or exclusively on GA and RP.

Results

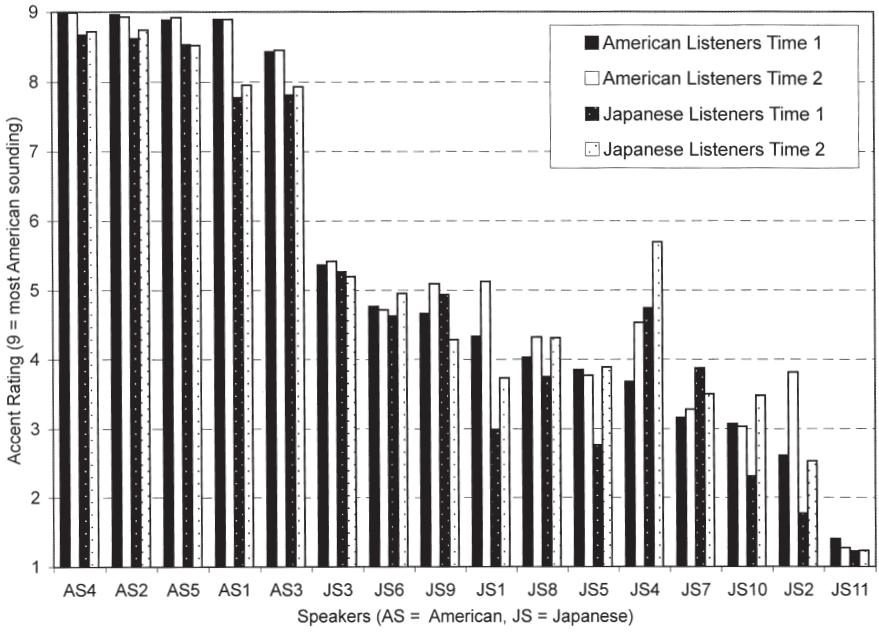
We describe accent as sounding more or less American, based on the ratings of the 5 native American listeners in Riney and Flege (1998). (We did not assume that our Japanese listeners had American pronunciation as their preferred model or target.)

Figure 1, which shows American and Japanese listeners' judgments of perceived degree of accent, comprises 16 thick bars, each comprising 4 thin bars. Each thick bar represents one speaker. For each speaker, the leftmost thin bar (black fill) shows the assessment of accent by the American listeners at Time 1 (T1). The thin bar immediately to the right (white fill) shows the American listeners' assessments of the same Japanese speakers 42 months later at Time 2 (T2). The third thin bar (black fill with white dots) and the fourth thin bar (white fill with black dots) show the corresponding Japanese listener assessments at T1 and T2, respectively.

In Figure 1, each of the 32 (16 speakers $\times$ 2 times) thin bars for the American listeners is based on 75 judgments (5 American listeners $\times$ 5 sentences $\times$ 3 judgments), involving 2,400 judgments. Each of the 32 thin bars for the Japanese listeners is based on 100 judgments (10 Japanese listeners $\times$ 5 sentences $\times$ 2 judgments), involving 3,200 judgments (minus one keyboard entry error that could not be counted,

FIGURE 1

American and Japanese Listener Ratings (Perceived Degree of Accent in English)



leaving 3,199). The 16 speakers are arranged in descending order from left to right based on the highest mean accent rating given by the American listeners at T1. AS and JS identify the American and Japanese speakers, respectively. AS4, on the far left, had the most American-sounding accent at T1 and JS11 on the far right had the least American-sounding accent at T1.

Question 1

Can the Japanese listeners distinguish American and Japanese speakers from one another based only on their English productions? On a scale of 1 to 9, where 9 represents a completely American-sounding speaker, the American listeners rated the American speakers an average of 8.8 (range 8.4–9.0; T1 and T2 combined for this question). The Japanese listeners rated the American speakers an average of 8.3 (range 7.9–8.7). The American listeners rated the 11 Japanese speakers an average of 3.9 (range 1.3–5.4); the Japanese listeners gave a similar average of 3.7 (range 1.2–5.2). Figure 1 shows that both American

listeners and Japanese listeners left large gaps between the two speaker groups. For the American listeners, the gap was 4.9 (8.8 American speakers − 3.9 Japanese speakers) and for the Japanese listeners the gap was 4.6 (8.3 − 3.7). Based on these findings, we concluded that the Japanese listeners easily distinguished the Americans and Japanese from one another based only on their productions in English.

Question 2

Can the Japanese listeners identify, from among the Japanese speakers, those who sound most and least American? Figure 1 shows that the American listeners rated JS3 as having the most American-sounding accent at both T1 (5.36) and T2 (5.41). The Japanese listeners also rated JS3 as the highest at T1 (5.26), and they rated JS3 as the second highest at T2 (5.19), following JS4 (5.69). At the other end of the scale, and at both T1 and T2, both American and Japanese listeners rated JS11 as the least American-sounding speaker, with ratings of 1.40 or less. The American listeners at T1 rated JS6 and JS9 as having the next most American-sounding accents (following JS3), and JS2 and JS10 as having the next least American-sounding accents (following JS11). Thus, the Japanese and the American listeners judged the same speakers to be more American sounding (e.g., JS3 and JS6) and less American sounding (e.g., JS2 and JS10), and they ranked the speakers similarly. JS4 at T2, however, was assessed very differently by the two listener groups. We interpreted these results to mean that the Japanese listeners may have been judging on a different basis than the American listeners.

Question 3

Can the Japanese listeners identify those individual Japanese speakers that became more American sounding over time? Question 3 involved the perception of change in accent of the same speaker between T1 and T2, a 42-month interval. The American listeners in Riney and Flege (1998) had rated JS1, JS2, and JS4 as sounding more American at T2; JS8 and JS9 as sounding marginally more American at T2; and JS2, JS5, JS6, JS7, JS10, and JS11 as unchanged at T2.

For the Japanese listeners to distinguish those Japanese speakers who sounded more American at T2 from those who did not, the Japanese listeners would have to identify the same speakers as the American listeners did, that is, judging JS1, JS3, and JS4 as sounding more American at T2 and JS2, JS5, JS6, JS7, JS10, and JS11 as unchanged at T2. As for JS8 and JS9, who sounded marginally more American at T2, we decided that the Japanese listeners could count them as either sounding

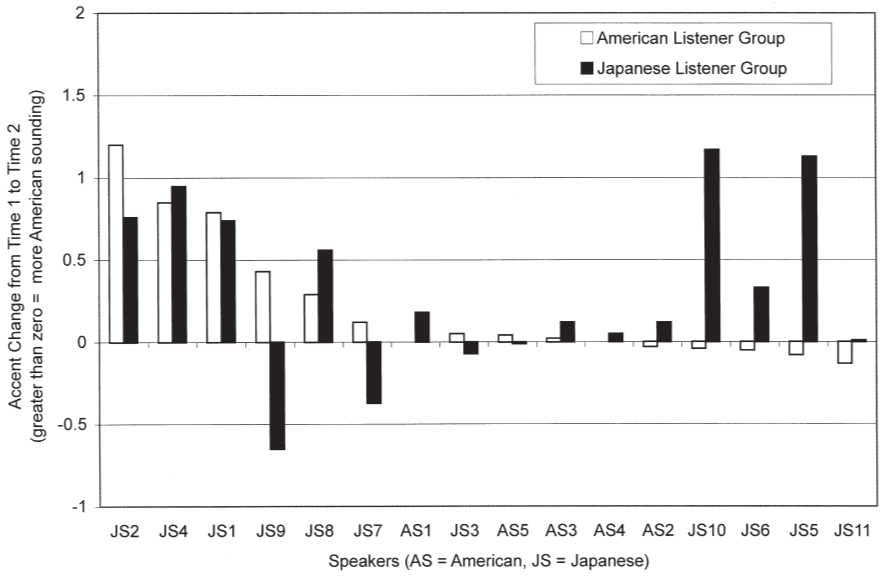
more American or unchanged, but they could not count them as sounding less American at T2.

The results are found in Figure 2, which comprises two sets of bars. The leftmost bar (white fill) shows the increase or decrease in accent rating that occurred between T1 and T2, according to the untrained American listeners. The areas above and below the zero line represent more and less American sounding, respectively. At the left in rank order are JS2, JS4, and JS1, the 3 speakers who increased the most (i.e., in terms of sounding more American) at T2. To the right of these 3 are JS9 and JS8, the 2 who increased marginally. To the right of these 2 are the 6 Japanese speakers who did not change, along with the 5 Americans who, as expected, also did not change.

The other set of bars (black fill) in Figure 2 represent the assessments of the untrained Japanese listeners. To determine whether the difference between T1 and T2 was significant for each of the 11 Japanese speakers, we performed 11 paired *t*-tests ($df = 10$) using the average ratings across the five sentences at T1 and T2 ($p < .05$). We determined that the Japanese listeners agreed with the American listeners that JS1, JS2, and JS4 sounded more American at T2, and that JS3, JS6, JS7, and JS11 had not changed at T2. In 3 other cases, however, the Japanese listeners

FIGURE 2

Change in T1 and T2 Ratings (Perceived Degree of Accent in English)



disagreed with the American listeners. In 2 of these cases, JS5 and JS10, the Japanese listeners assessed them as sounding more American at T2, whereas the American listeners assessed them at T2 as sounding as American as they had at T1. In the 3rd case of disagreement, the Japanese listeners assessed JS9 at T2 as sounding less American, whereas the American listeners assessed JS9 at T2 as sounding marginally more American. The 11th and remaining Japanese speaker is JS8, whose accent ratings by the Japanese listener group showed a significant increase of 0.6 at T2. Because Riney and Flege (1998) had identified JS8 as a speaker whose accent became marginally more American sounding, we accepted the Japanese listeners rating of JS8, although slightly higher, as matching that of the American listeners.

In summary, the Japanese listeners matched the American listener ratings in 8 of 11 cases: 4 speakers sounded more American at T2, and 4 had no change at T2. The Japanese ratings were different, however, in 3 cases: JS9, JS10, and JS5. For each of these speakers, the Japanese listeners indicated a change at T2, but the American listeners indicated no change. Based on these 3 cases of disagreement, we concluded that the Japanese listeners did not judge Japanese accents as sounding more American over time in the same way as untrained American listeners did. This disagreement led us to ask Question 4.

Question 4

When the American listeners and the Japanese listeners assess the same Japanese speaker as sounding more (or less) American, to what extent do the two listener groups use the same phonetic parameters to make this perceptual judgment? We addressed Question 4 by focusing on those sentences that elicited two different accent ratings from the two groups of untrained listeners. We focused only on the 6 Japanese speakers who, according to the Japanese listeners, involved significant differences between T1 and T2.

In investigating these 6 speakers' productions, we further narrowed our focus to those sentences involving the largest T1–T2 disagreement between the two listener groups. We developed a procedure for identifying those sentences by first computing T2 − T1 for each listener group for each sentence as follows (where Diff = difference):

$$\text{Diff}_{\text{Japanese listeners}} = \text{T2}_{\text{Japanese listeners}} - \text{T1}_{\text{Japanese listeners}}$$

$$\text{Diff}_{\text{American listeners}} = \text{T2}_{\text{American listeners}} - \text{T1}_{\text{American listeners}}$$

We then subtracted $\text{Diff}_{\text{Japanese listeners}}$ from $\text{Diff}_{\text{American listeners}}$. When the absolute value of this difference between the two groups was large, we

inferred that the rating behavior between the two groups was different. We established two criteria for our judgments. Criterion 1 was that the difference between the two groups had to be either greater than 0.8 or less than −0.8. We chose the value 0.8 because there was a large gap in the absolute values around 0.8; the smallest absolute value exceeding 0.8 was 0.86 and the next largest absolute value was 0.66.

Criterion 1. $| \text{Diff}_{\text{American listeners}} - \text{Diff}_{\text{Japanese listeners}} | > 0.8$

The cases that satisfied Criterion 1, however, still included some cases where both listener groups judged a given sentence to have become more or less American sounding. To exclude such cases and focus on the cases where one group found little or no difference between T1 and T2 and the other group found a large difference, or the cases where the two groups found changes in opposite directions, we established Criterion 2, which has two parts:

Criterion 2.1. T2 − T1 in one group is between −0.2 and 0.2 (i.e., no or little accent change).

Criterion 2.2. T2 − T1 signs (i.e., positive vs. negative) for the two groups are different.

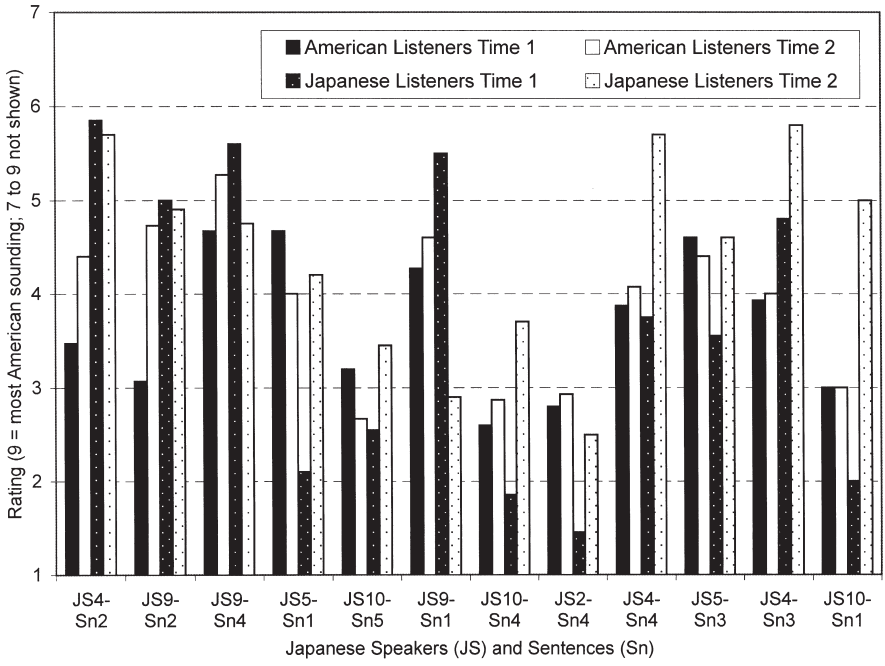
For a particular sentence to qualify for analysis, the data had to satisfy Criterion 1 and either Criterion 2.1 or 2.2 (see Appendix B). After applying these criteria to 30 sentences (6 Japanese speakers × 5 sentences) we found that 12 sentences qualified for analysis. (Of the 6 Japanese speakers that we considered, JS1 had no sentence that qualified.)

Figure 3 shows the mean ratings by the two listener groups of these 12 sentences at T1 and T2. For each sentence there are four thin bar columns. The first two show the American listener assessments at T1 and T2; the next two show the Japanese listener assessments at T1 and T2. (The 12 sentences in Figure 3 are ordered from left to right, as discussed in this article.)

In 2 of the 12 sentences, JS4-Sn2 and JS9-Sn2, the American listeners found a more American-sounding accent at T2 but the Japanese listeners found no change. In 3 other sentences, the two listener groups differed in the direction of accent change: In JS9-Sn4 the American listeners found a positive change and the Japanese listeners a negative one; and in JS5-Sn1 and JS10-Sn5 the American listeners found a moderately negative change and the Japanese listeners a positive one. In the remaining 7 sentences (on the right side of Figure 3), the American listeners found no change, and the Japanese listeners found either a negative change (JS9-Sn1) or a positive change (JS10-Sn4, JS2-Sn4, JS4-Sn4, JS5-Sn3, JS4-Sn3, and JS10-Sn1).

FIGURE 3

Ratings (Perceived Degree of Accent in English) in the Same 12 Sentences



Using these 12 sentences where the difference between the two listener groups' ratings was the largest, we attempted to explain how two untrained listener groups, one American and the other Japanese, could perceive the same English-medium stimuli so differently. We based our explanation on an auditory analysis conducted by two additional listeners, both trained in phonetics. One trained listener was a NS of Tokyo Japanese and the other was a NS of American English. Both listeners had completed graduate theses dealing with phonetics and perception, had taught English pronunciation and phonetics, and had published phonetics-related research. On the basis of auditory analysis, the two trained listeners described accent change in terms of two broad categories. *Segmentals* denoted vowels and consonants; *nonsegmentals* denoted everything else, including intonation, fluency, and speech rate.

In this article, we present the results of Question 4 with reference to Figure 3. Because our paired *t*-test reported in Question 3 roughly determined that any difference greater than 0.5 was significant, we used

0.5 as the cutoff point for identifying significant changes between T1 and T2. (All numerical ratings are shown in Table A1.)

Our trained American listener found that in 5 of 5 sentences (on the left side of Figure 3) in which the untrained American listeners identified some change between T1 and T2 greater than 0.5 on the accent scale, either positive or negative, there was definite segmental change, summarized as follows:

1. In JS4-Sn2 the /l/ in *splendid* sounded more American at T2.
2. In JS9-Sn2 the /l/ in *splendid,* the vowel in *heard,* and the /d/ in *made* all sounded more American at T2. (The T1 vowel in *heard* was /i:/; this pronunciation could have been related to orthography and the vowel in *hear.*)
3. In JS9-Sn4 the /r/ in *correctly* sounded more American at T2.
4. In JS5-Sn1 the vowel in the final syllable of *graduate* sounded more American at T1. (This vowel difference may be related to syllable stress.)
5. In JS10-Sn5, the /r/ in *request* sounded more American at T1. (Here the difference between T1 and T2 is −0.53, barely meeting the 0.5 criterion.)

Nonetheless, despite the definite segmental changes in each of these five cases, the untrained Japanese listeners' ratings showed either no change (i.e., <0.5) or change in the opposite direction from that indicated by the untrained American listeners. (See Figure 3.)

For the remaining 7 sentences (to the right in Figure 3), the untrained American listeners detected no change between T1 and T2, but the untrained Japanese listeners did detect a change. In one case (JS9-Sn1), the T1 version sounded more American than the T2 version; in the other 6 cases (JS10-Sn4, JS2-Sn4, JS4-Sn4, JS5-Sn3, JS4-Sn3, JS10-Sn1), the T2 version sounded more American. In each sentence, the trained Japanese listener was able to detect definite changes in intonation or fluency to account for the untrained Japanese listener's accent ratings. In each of the 7 sentences, the untrained Japanese listener's rating involved at least one of three phenomena:

1. A *list intonation* in reading some the sentences. At T1, for example, JS5 read Sn1, *A large group of students graduates each spring,* as though it were a list of words rather than as a sentence: *A, large, group, of, students, graduates, each, spring.*
2. *Intonation at the end of a clause.* Japanese students are often taught to pronounce words at the end of clauses with a certain type of falling intonation. In a sentence involving two clauses, as in *They answered correctly, and the instructor thanked them,* they are taught that the first

clause should end with a slightly rising intonation signaling that the speaker will soon continue with the second clause. When the Japanese listeners heard two versions of the same sentence, one with the prescribed intonation and the other without it, they rated the prescribed version as sounding more American. This phenomenon emerged in 6 cases: JS5-Sn1 at T2, JS4-Sn4 at T2, JS4-Sn3 at T2, JS5-Sn3 at T2, JS10-Sn1 at T2, and JS9-Sn4 at T1.

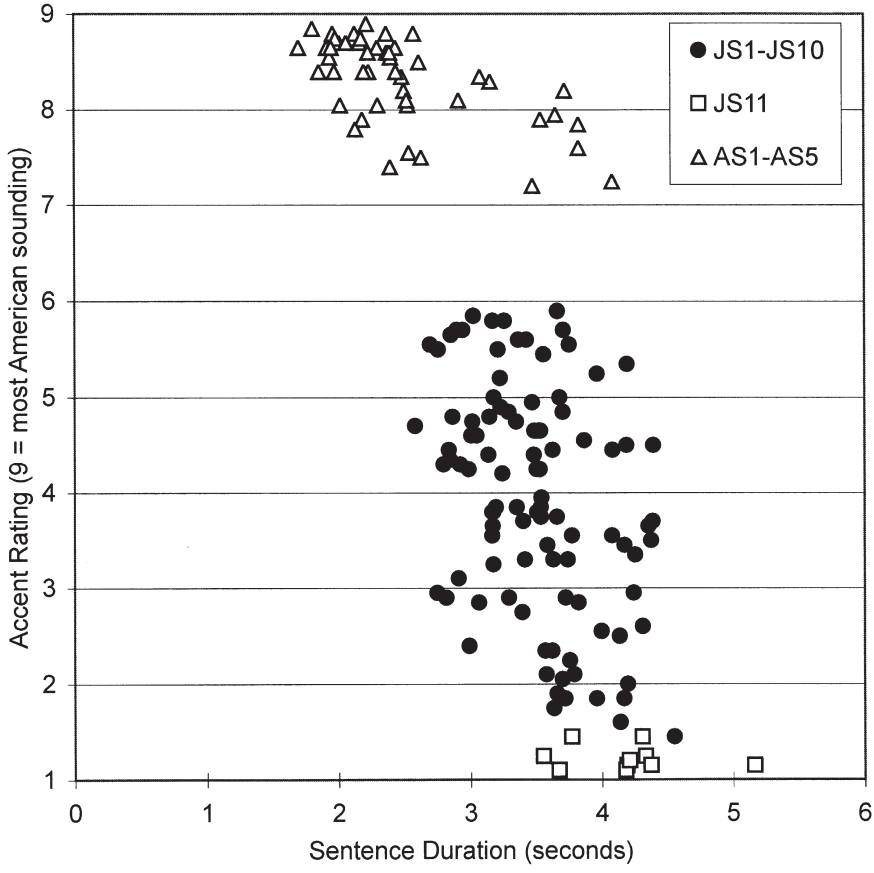
3. *Fluency.* Whenever a Japanese speaker did not articulate an entire sentence quickly and without pauses, the Japanese listeners' rated the accent as sounding less American. For example, JS2-Sn4 at T1 paused between *the* and *instructor* and had a false start (*him*) in producing *them.* In 5 sentences involving lesser fluency (JS2-Sn4, JS5-Sn1, JS10-Sn1, JS10-Sn4, and JS10-Sn5), the Japanese listeners gave low ratings at T1, indicating a less American-sounding accent (1.5–2.6); in each of these cases, the American listeners found no such differences between T2 and T1.

In listening to the 12 sentences and trying to account for the differences, the two trained listeners made one additional observation: The trained listeners' perceptions of what pronunciation characteristics most contributed to accent were clearly aligned with their respective L1 untrained listener groups. For example, although both trained raters noted that JS5-Sn1 at T1 had used a list-type intonation, they disagreed about how prominently that type of intonation should figure in the overall accent rating. In other words, the trained raters agreed on the phonetic composition of the accents but sometimes disagreed on the relative weight that each part should have in determining how American it made the speech sound. It was as if segmentals sounded louder to the Americans than they did to the Japanese.

We can now summarize our findings that address Question 4, based on our trained listeners' auditory observations of the 12 sentences at T1 and T2. In each case, the two untrained listener groups assessed accent change in widely differing ways. Compared to the American listeners, the Japanese listeners paid much more attention to intonation and fluency and less attention to segmentals.

Question 4 can also be addressed in a different way, based on an acoustic measure of sentence duration. We were aware of research (e.g., Derwing & Munro, 2001; Munro & Derwing, 2001) using NS and NNS English listeners to investigate the relationship between perceived accent and speaking rate. In our study, we noticed that several of the sentences seemed to have T1–T2 differences in fluency that may have contributed to the Japanese listener ratings. We noted that some Japanese speakers who had T1–T2 differences in reading speed, but whose segmentals and overall accent had not really improved, were being rated by Japanese

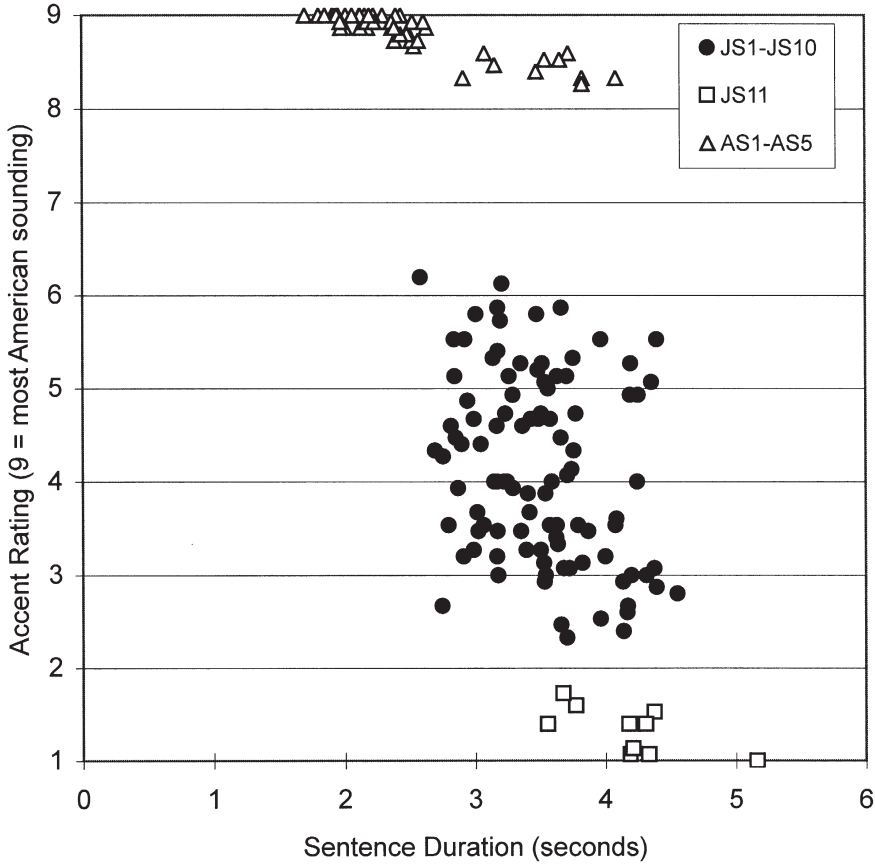
FIGURE 4
Sentence Duration and Japanese Listener Group Rating
(Perceived Degree of Accent in English)



listeners (but not by American listeners) as sounding more American in the faster version of a sentence. Based in part on these observations, we decided to investigate the role of sentence duration—the length of a sentence in seconds—in relation to accent rating.

Two scattergrams, Figure 4 for the Japanese listeners and Figure 5 for the American listeners, show the relationship between sentence duration in seconds and accent rating (T1 and T2 combined). The data points (ordered pairs of sentence duration and accent rating) form three clearly demarcated subgroups or clusters: American speakers (AS1 to AS5, open triangles), Japanese speakers with intermediate degree of

FIGURE 5
Sentence Duration and American Listener Group Rating
(Perceived Degree of Accent in English)



American accent (JS1 to JS10, filled circles), and the least American-sounding Japanese speaker (JS11, open squares).

To determine the role of sentence duration in rating English sentences read with an intermediate degree of Japanese accent, we calculated the Pearson correlation coefficient between duration and rating for the sentences produced by JS1 to JS10 for each of the listener groups. In both cases, the correlations were significant ($p < .05$). When we compared the proportionate reduction in error by introducing sentence duration as a predictor variable, we found that the ratio was approximately 1 to 2 (0.08 to 0.16). Thus, from a descriptive point of view, the

data suggest that sentence duration counted twice as much for the Japanese listeners as it did for the American listeners in rating the degree of how American an accent sounded.

DISCUSSION

Our central finding was that adult NS and NNS listeners of English perceive degree of accent in fundamentally different ways, each systematically based on different phonetic parameters (or differently weighted parameters). Whereas NS American listeners relied more on segmentals (especially /r/ and /l/), NNS Japanese listeners relied more on intonation, fluency, and rate of speech.

Addressing Question 1, we compared 10 untrained Japanese listener assessments with 5 untrained American listener assessments and found clear evidence that the Japanese listeners could easily identify American and Japanese speakers based on their English productions alone. Addressing Questions 2 and 3, we then found evidence that the Japanese listeners had more difficulty identifying those Japanese speakers who sounded most and least American, as well as those Japanese speakers who became more American sounding over the 42-month period between T1 and T2. Why was this? This finding led to Question 4.

Based on the follow-up observations by one trained American listener and one trained Japanese listener, supported by acoustic analysis, we found evidence that the untrained American listeners and the untrained Japanese listeners, when rating perceived degree of accent, based their respective perceptual judgments on different, or at least differently weighted, phonetic parameters. For the American listeners to rate a sentence as sounding more American, the segmentals, especially /r/ and /l/, had to sound American. For the Japanese listeners, the nonsegmental phenomena (intonation, fluency, and speech rate) had to sound American.

Why would the two groups of listeners, one NS and the other NNS, rely on different phonetic parameters to assess accent? Or, to put it differently, why do segmentals sound louder to American listeners than to Japanese listeners? The T1–T2 changes involving segmentals probably did not stand out for the Japanese listeners because the Japanese could not hear them very well, and in some cases, especially with regard to /l/ and /r/, perhaps not at all. Previous research (e.g., Takagi 1993, 2002) has shown that, even with training under intensive and optimal conditions, some Japanese adults may not ever hear the English /r/ and /l/ the way that American speakers hear them—although the same Japanese adults can learn to produce these two sounds the way that Americans produce them. Our findings in this study that the Japanese listeners seemed to ignore certain segmental differences in accent are consistent

with previous studies' findings that Japanese listeners have substantial difficulty perceiving these same segmental differences in accent.

It also makes sense that Japanese listeners showed greater sensitivity to nonsegmental factors such as intonation than American listeners did. Japanese, unlike English, is a language in which tone (pitch) is phonemic (Vance, 1987). It is possible that because Japanese listeners had more difficulty hearing the segmental differences, they relied on pronunciation parameters that they could hear better. Three such parameters that we identified were intonation, fluency, and speech rate. It is possible that Japanese speakers who are left alone to improve their accents in English focus on certain prosodic features and ignore certain segments, such as /r/ and /l/. Additionally, if some Japanese speak English faster because they believe faster is better for English pronunciation, this faster rate could affect how they form English segmentals, how their overall accent in English sounds, and to what degree their English words are recognizable and intelligible to other listeners.

Our findings also have implications for a World Englishes perspective and particularly for Jenkins's (2000, 2002) LFC. This model of pronunciation instruction "is no longer based on idealized NS models or NS corpora, but . . . is both more relevant (in terms of EIL needs) and more realistic (in terms of teachability)" (2002, p. 86). It is important to remember that Jenkins focuses on intelligibility and teachability and our research has focused on perception of degree of accent. It is also important to remember that whereas Jenkins is contriving "a phonological core for use by speakers from all L1s" that "cannot be governed by individual L1 difficulties" (2000, p. 137), our study has considered only one L1 group, Japanese. With these cautions in mind, we now ask what difference it would make, from a Japanese listener's point of view, if the model of English that Japanese learners had to study and use for international communication was not GA or RP, but the LFC. In addressing this question, we will restrict our discussion to two general characteristics and one specific sound of the LFC.

The first general characteristic of the LFC is that segmentals generally have primacy over suprasegmentals. Indeed, only tonic stress is important among nonsegmental phenomena, and *intonation* (i.e., final pitch movement) is singled out as particularly irrelevant. According to Jenkins (2000), "those who give primacy to the suprasegmentals tend to have 'NS-NNS' communication in mind" (p. 136). In our study, however, which involved NS–NNS judgments (and not NNS–NNS), we discovered that American listeners gave segmentals definite primacy over intonation. It was the NNS Japanese, and not the NS Americans, who relied more on intonation than on segmentals. Thinking of what was important for NNS–NNS communication, Jenkins emphasized segmentals; when it came to rating an accent as American sounding, our untrained NS

American listeners did the same. Whether this general finding indicates any underlying link between perception of accent in English and intelligibility in English remains unclear (see Munro & Derwing, 1995).

A second general characteristic of the LFC is that, among segmentals, consonants generally have primacy over vowels. We found this consistent with our study, at least for the American listeners. In addressing Question 4, we found that 5 of 7 segmental differences between T1 and T2 that were important to the American listeners unambiguously involved consonants. The two cases involving vowels, on the other hand, could be attributed to other factors (orthography and stress).

This finding raises the question whether LFC's emphasis on segmentals over suprasegmentals, consonants over vowels, and certain consonantal phenomena over others justifies a change from GA or RP to LFC. We think not. Teachers of pronunciation have always had to teach selectively—we are not aware of any teachers who have had time, according to Jenkins (2002), to "attend to every detail in which an NNS pronunciation differs from that of the (standard) pronunciation of an NS" (p. 96). The value of the LFC may be more in its recommendations of what not to teach than in what to teach. To address many of the changes that Jenkins proposes, teachers can continue to use GA or RP and simply reorganize their syllabus to reflect this emphasis.

One consonant item, however, could change our mind about the LFC, if it were properly revised. This item is English /r/. (We would also include /l/ as relevant to the following discussion.) The LFC proposes the American /r/ over the British /r/ for reasons that involve orthography, consistency, and simplicity elsewhere in the phonological system, all of which, Jenkins argues, contribute to teachability. From our point of view, however, choosing GA over RP (or vice-versa) is irrelevant. Both enable NSs to retain ownership of sounds that are difficult for a wide variety of learners. One indication that English /r/ and /l/ are widely recognized problems for learners and teachers of English is the vast research literature devoted to the topic (see, e.g., Riney, Takada, & Ota, 2000; Takagi, 2002). Even if Japanese speakers were to adopt the LFC as their model of English pronunciation, and even if all other NNS interlocutors could acquire American /r/ perfectly, the Japanese would still have to face, in NNS–NNS interactions, what is perhaps their primary perceptual and productive difficulty in English: /r/ and /l/.

Thus, if there is a link between perception of accent in English and intelligibility in English (a point that we have not shown), it seems unlikely, based on our findings, that the LFC offers any clear advantage to Japanese learners over the existing models of GA and RP. Some points in the LFC syllabus could be addressed by reorganizing an existing GA or RP syllabus and changing the emphasis within it. However, if the LFC is

to be a more teachable model for Japanese learners, it must offer alternatives to English sounds that are consistently hard to pronounce and not just to the relatively easy ones. Jenkins (2000) suggests such substitutions for the English interdental consonants. We suggest that the same kinds of substitutions be given for English liquids /r/ and /l/.

The research literature (e.g., Riney, Takada, & Ota, 2000; Takagi, 2002) suggests that English liquids pose major perceptual problems not just for speakers of Japanese, but for millions of speakers of other Asian languages as well. Yet many of these languages, like Japanese, have liquids that are less marked phonologically (i.e., more commonly found among the world's languages). In a number of cases, these sounds are possibly easier for speakers of other languages to learn than are the liquids in GA and RP. Why, then, must the choices for EIL liquids be restricted to the phonemic inventories of GA and RP? Perhaps the NNSs of English should convene to decide on, for EIL purposes, a teachable (and ethnically neutral) pair of liquids from outside the GA and RP phonemic inventories. What revision of the LFC could contribute more to both the teachability of English—and the world ownership of EIL—than that?

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APPENDIX A

The five sentences that were read and assessed for accent:
1. A large group of students graduates each spring.
2. I heard that splendid speech you made last night.
3. Someone's trying to turn my friends against me.
4. They answered correctly and the instructor thanked them.
5. I request that all books be removed from the desks.

TABLE A1

Ratings of 12 Sentences by the Two Listener Groups

Speaker	JS4	JS9	JS9	JS5	JS10	JS10	JS9	JS2	JS4	JS5	JS4	JS10
Sentence	Sn2	Sn2	Sn4	Sn1	Sn5	Sn4	Sn1	Sn4	Sn4	Sn3	Sn3	Sn1
American listener, T1	3.47	3.07	4.67	4.67	3.2	2.6	4.27	2.8	3.87	4.6	3.93	3
American listener, T2	4.4	4.73	5.27	4	2.67	2.87	4.6	2.93	4.07	4.4	4	3
Japanese listener, T1	5.85	5	5.6	2.1	2.55	1.85	5.5	1.45	3.75	3.55	4.8	2
Japanese listener, T2	5.7	4.9	4.75	4.2	3.45	3.7	2.9	2.5	5.7	4.6	5.8	5

Note. JS = Japanese speaker; Sn = sentence; T1 = Time 1; T2 = Time 2. T1 and T2 were 42 months apart. Scale: 1–9, with 9 = most American sounding; American listeners n = 5; Japanese listeners n = 10.

APPENDIX B

TABLE B1

Examples Showing How the Criteria for Analysis Were Applied

Speaker	JS1	JS2	JS4	JS9
Sentence	Sn1	Sn3	Sn4	Sn4
American listeners T2	5.1	4.7	4.1	5.3
American listeners T1	4.3	3.1	3.9	4.7
American listeners T2 − T1	0.8	1.6	0.2	0.6
Japanese listeners T2	3.7	2.4	5.7	4.8
Japanese listeners T1	2.3	1.9	3.8	5.6
Japanese listeners T2 − T1	1.4	0.5	1.9	−0.8
$Diff_{American} - Diff_{Japanese}$	0.6	1.1	−1.7	1.4
Criterion 1	No	Yes	Yes	Yes
Criterion 2.1	NA	No	Yes	No
Criterion 2.2	NA	No	No	Yes

Note. JS = Japanese speaker; Sn = sentence; T1 = Time 1; T2 = Time 2. T1 and T2 were 42 months apart. For Question 4, Table B1 includes four examples showing how the criteria were applied to determine which sentences were qualified for analysis. First, JS1-Sn1 does not satisfy Criterion 1 because the absolute value of $Diff_{American\ listener\ group} - Diff_{Japanese\ listener\ group}$, which is 0.6, is not greater than 0.8. Next, JS2-Sn3 satisfies Criterion 1 but not 2.1 or 2.2 because both listener groups found positive changes of greater than 0.2. Next, JS4-Sn4 satisfies both Criteria 1 and 2.1 because there was a large negative difference in $Diff_{American\ listener\ group} - Diff_{Japanese\ listener\ group}$, and the American listener group found little change (0.2), whereas the Japanese listener group found a large positive change (1.9). Finally, JS9-Sn4 satisfies Criterion 1 and, because the signs of T2 – T1 are opposite, (0.6 and –0.8), it also satisfies criterion 2.1.

Pronunciation Issues and EIL Pedagogy in the Periphery: A Survey of Greek State School Teachers' Beliefs

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This article presents a survey of Greek EFL teachers' (N = 421) attitudes regarding their pronunciation beliefs and practices. It touches on two sets of questions. First, it refers to teachers' viewpoints regarding pronunciation-specific issues and the possible links between pronunciation teaching, English as an international language (EIL), and the sociocultural identity of nonnative speakers of English (NNSs). Second, it tries to establish the extent to which these teachers are aware of EIL-related matters, such as the need for mutual intelligibility in NNS–NNS communication. We conclude that teachers' viewpoints are predominantly norm bound. We further attempt to make sense of these viewpoints by referring to (a) the teachers' sense of being the custodians of the English language as regards English language learners and (b) the wider sociocultural linguistic background in Greece (which involves a history of *diglossia* and a recent experience of a massive inflow of immigrants). We go on to suggest ways to raise teachers' awareness of EIL-related concerns by suggesting that they use their immediate geopolitical and sociocultural surroundings.

It has been claimed that pronunciation is "a field that has been notoriously data poor and anecdote rich" (Gilbert & Levis, 2001, p. 506). Current research in pronunciation in ESL, EFL, and EIL largely concentrates on two areas. First, it focuses on presenting and analyzing different aspects of the spoken discourse and listening comprehension and intelligibility of native speakers (NSs) and NNSs (e.g., Derwing & Munro, 2001; Major, Fitzmaurice, Bunta, & Balasubramanian, 2005; Munro & Derwing, 1995a). Second, it is concerned with gauging how the beliefs and attitudes of NSs, NNSs, and English language learners toward

accent can cause them to make stereotypical assumptions based on different accents (Major, Fitzmaurice, Bunta, & Balasubramanian, 2002, p. 176; Nesdale & Rooney, 1996) and how these same beliefs can influence people's perceptions of social status (Cargile, 1997).

There are fewer studies, however, that are concerned with the perceptions of nonnative-English-speaking teachers (NNESTs) regarding pronunciation teaching. Most studies seem to focus on discussions of the profile and place of the NNEST (e.g., Árva & Medgyes, 2000; Braine, 1999), but few take up the issue of pronunciation teaching (e.g., Timmis, 2002), much less focus on the attitudes toward pronunciation teaching of NNESTs in the expanding circle. Yet, pronunciation teaching does seem to yield insights into a wide variety of issues, such as the status of English language communication (Pakir, 1999) and teaching (Seidlhofer, 1999) in the expanding circle; the relationship between the English described in corpus-attested spoken norms, designated in teaching materials, and taught in the language classroom (Carter & McCarthy, 1997); teachers' perceived status (as speakers of English) in the EFL classroom (Cook, 1999); or, even, the impact of globalization on the use of English as an international language (Bruthiaux, 2002) and on EFL teaching in general (Block & Cameron, 2002; Sifakis & Sougari, 2003a).

This article is concerned with the relationship between pronunciation teaching and EIL. It uses teachers' beliefs about pronunciation teaching to examine the assumption that, although EIL is the offshoot of the extensive use of English around the globe by NNSs, it is still heavily enmeshed in NS-oriented preconceptions (Widdowson, 2003). In doing so, our research follows two paths. On the one hand, it builds on previous work in an attempt to add to the emerging picture of EIL pronunciation teaching from the perspective of an expanding-circle country. On the other hand, it offers a sociolinguistic and sociocultural interpretation of the research results that may not be immediately perceived as being strictly related to pronunciation teaching but which can nevertheless form a basis for viewing pronunciation teaching apart from inner-circle norms. More specifically, these themes bring up issues concerning the level at which respondents teach (primary, lower secondary, or higher secondary), the nature and status of their mother tongue (diglossia in Greece), their attitudes toward Greece's accession to the European Union, and their attitudes toward immigrants.

Our article reports the findings of a survey of Greek EFL teachers concerning the place and function of English pronunciation teaching in Greek state schools. It investigates their beliefs about and attitudes toward the pronunciation features that they are asked to teach in familiar classroom situations. More specifically, Greek state-school teachers of English ($N = 421$) were asked to report their beliefs about their own pronunciation system as well as their expectations concerning a

number of features of learners' pronunciation. Their attitudes are analyzed to reveal the teachers' conceptualisation of pronunciation teaching. Teachers were asked their views about three broad areas: (a) the ownership of English, (b) the sociocultural status of standardised pronunciation norms and their confidence in their own and their learners' pronunciation, and (c) how their views have affected their teaching.

PRONUNCIATION TEACHING IN THE PERIPHERY

Pronunciation Teaching and the EIL Paradigm

The place of pronunciation teaching in the EIL curriculum has been extensively discussed in the past few years (Jenkins, 2000, 2002, 2004). By *EIL,* we refer to the varieties of English (whether standardised or not) that are used for the communication between NNSs of English. Such communication is typically situated in the expanding circle, but its scope goes beyond this context (Melchers & Shaw, 2003, p. 179) and is based on the need to create a discourse that is comprehensible to interlocutors at different levels of competence in English across a diverse range of communicative situations (Jenkins, 2004; Seidlhofer, 2004; Sifakis, 2004).

Pronunciation is important within EIL for two reasons. First, establishing mutual intelligibility among NNSs is an important goal. By intelligibility, we refer to the need to create discourse that is understood by participants within a given communicative framework. In this sense, intelligibility has been at the centre of all definitions of EIL (McKay, 2002, pp. 52–53; Melchers & Shaw, 2003, pp. 191–193; Smith, 1976, p. 38). It also characterises the comprehensibility between and even among NNSs and NSs, which makes intelligibility a basic constituent of the very notion of pronunciation itself (cf. Morley, 1991, pp. 488–489, 491). This is a complicated issue (see, e.g., the discussion of intelligibility and comprehensibility in Munro & Derwing, 1995b). In their discussion of the importance of pronunciation-related variables for listening comprehension, Major et al. (2005) mention, among others, rate of speech, accent, interlocutors' familiarity with accent, and accent sharing (Flowerdew, 1994), and they stress the equal importance of other linguistic and pragmatic factors such as grammar, discourse features, dialect and topic familiarity, overall fluency, and interlocutors' attitudes ("stereotypes regarding non-native accented speech," Derwing, Rossiter, Munro, & Thomson, 2004, p. 45).

Obviously, for communication between NNSs to be mutually intelligible, speakers must be able to produce segmental and suprasegmental speech elements that their interlocutors can recognize (Jenkins, 2004).

This perspective has been widely researched. Corpus-based analyses of the language of NNSs (cf. Granger, 2003; Mauranen, 2003; Seidlhofer, 2001, 2004) are available as well as an empirically based theoretical proposal for teaching EIL phonology (Jenkins, 2000, 2002).

Second, pronunciation plays a central role in EIL because how people sound is closely related to others' perceptions about their sociocultural identity (Morgan, 1997). *Sociocultural identity* is a complex construct that defines the relationship between the individual and the wider social and cultural environment. The individual is interpreted through his or her association with such institutions as families, schools, and workplaces and with "members of a group who share a common history, a common language, and similar ways of understanding the world" (Norton, 1997, p. 420). The sociocultural identity of the individual is expressed in many ways, one of the most important being language communication. Pronunciation is an important feature of sociocultural identity to the extent that it is a linguistic characteristic acquired in childhood, solidified in early adolescence, and generally not considered to be under the adult's conscious or immediate cognitive control (Moyer, 2004). In other words, people sound the way they sound, and there is usually very little that they can do about it. From a pedagogical perspective, the fact that pronunciation is perceived as a salient feature of an individual's linguistic make-up that he or she cannot control consciously may explain why certain researchers (e.g., Kenworthy, 1987) view the teacher's role in teaching pronunciation as relatively unimportant. Of more importance are the learners' extensive exposure to certain pronunciation models, their motivation for acquiring a particular pronunciation norm, and creating opportunities for them to realise their own potential (Morley, 1991, p. 494).

In second and foreign language pedagogy, pronunciation teaching has been oriented toward inner-circle norms and standards as much as any of the other aspects of language teaching, such as vocabulary learning or grammar (Bardovi-Harlig, Gass, Sieloff Magnan, & Walz, 2002). However, in EIL contexts, the issue of the learners' professional and sociocultural identity becomes more important. Globalization has affected the politics of identity, citizenship, and nationhood (Chouliaraki & Fairclough, 1991), and it has fostered the domination of English in such important international arenas as mass media, education, international relations, travel, safety, and communication (Crystal, 2003). This has in turn affected sociocultural (Pennycook, 1998; Phillipson, 1992) and pedagogic infrastructure (Canagarajah, 1999). Issues of sociocultural identity also affect more practical issues, such as the extent to which international English can be rightfully owned by its users (Norton, 1997) and the implications that such ownership will have on the development of an international English standard (Widdowson, 1994, 2003).

A pronunciation-related issue that has arisen in this regard is the extent to which learners and teachers in the expanding circle are aware of the characteristics and implications of EIL and the extent to which they are willing to learn and teach a variety of English based less on inner-circle pronunciation norms than on the intelligibility constraints of each communicative situation (Sifakis, 2004). Research suggests that teachers' viewpoints are usually informed by the level at which they teach, the textbooks chosen (Yakhontova, 2001), previous intercultural and teaching experiences (Lazaraton, 2003, p. 216), and their confidence as teachers, a characteristic linked to their proficiency in the target language (Nunan, 2003, p. 601). In our study, we have tried to establish the extent to which EFL teachers in Greece uphold a norm-bound position regarding pronunciation teaching and whether they are aware of EIL-specific concerns.

Teaching English in Greece—EFL and EIL

According to Kachru's circles (1985), Greece belongs to the expanding circle, which means that, in the Greek context, English is a foreign language, or, to be more precise, the default foreign language selected by the state for pupils (Crystal, 2003). At the primary level, English is taught from the third grade onward and is based on specifically designed courseware, whereas at the secondary level, teachers select courseware from a list of commercially published material available from the Ministry of Education. Classes are organised on the basis of placement tests administered by the teachers. In the private sector, it is possible to distinguish two main types of classes. The first is primarily testing oriented and serves a great number of teenagers and adults who sit standardised proficiency exams (such as those developed by the University of Cambridge and the University of Michigan), local organisations, or, since 2003, the Greek state. The second type of class involves teaching English for specific purposes, specifically, academic purposes (at the tertiary level or for preparation for those who want to study abroad) and for business and other professional purposes.

As in other expanding-circle countries, the English taught in Greece is predominantly an inner-circle variety, most notably British or American (see Matsuda, 2003, p. 719). However, recent curricula in the state sector have expressly referred to the need to integrate the international character of English. This is reflected, to some extent, in the primary-level courseware (Sifakis & Sougari, 2003b). It is not clear, however, to what extent state school teachers are aware of the central issues of EIL and to what extent they are ready to implement EIL practices in their classrooms. Greece is a traditionally monolingual community that has, in

the past 2 decades, experienced two important changes: its accession to the European Union (EU) in 1981 and a massive inflow of foreign immigrants that started in the late 1980s. These changes may influence teachers' attitudes toward EIL issues.

To better understand the context of the present research, three factors are important in respondents' beliefs concerning EIL: (a) the diglossia situation in Greece, (b) attitudes toward Greece's accession to the EU and (c) attitudes toward immigrants.

In the 20th century, the Greek language has come to include two distinct standard varieties, one that heavily draws on the lexis and syntax of ancient Greek and is therefore more formal, scholarly, and prestigious (*katharevousa*) and one that borrows heavily from neighbouring languages and is therefore more informal, less prestigious, and used for everyday communicative purposes (*demotiki*). The uses of these two varieties of Greek have been politically loaded (the formal variety being identified with the conservatives and the informal variety with the socialists) and, inevitably, have even raised concerns regarding the overall political orientation of the country (Stavridi-Patrikiou, 1999). For many years, Greek schoolchildren were taught the formal variety at school but tended to use the informal variety in their everyday communication. The clash between the two varieties (the phenomenon was termed *diglossia* by Ferguson, 1959, and is also known as *societal bilingualism*) was politically resolved in the 1980s, when the Greek state officially recognised the demotic or less formal variety. However, this diglossic history (i.e., the distinction between a high and a low variety) is still evident today in the widespread critique of native speakers' "bad" uses of modern Greek and in the conviction that Greek should rid itself of the solecisms that spring from inadequate knowledge of the language and even the contaminating linguistic invasion of English words and phrases (Papapavlou, 2002). For our research, this norm orientation of Greek native speakers probably also characterises the beliefs of Greek teachers of English.

Greeks' geopolitical and sociocultural orientations are also interesting. On the one hand, the fact that the Greek language stands apart in the Indo-European language family tree has been credited with rendering Greek people traditionally more inward than outward looking in terms of their own history and culture. In fact, Greeks started to become more outward looking after Greece's accession to the EU (Frangoudaki, 2002), when the country was forced to more openly address issues such as regional policy, environmental policy, social regulation and legislation, foreign policy, and the monetary union (Dimitrakopoulos & Passas, 2004). This new orientation has had a positive impact on the country and has resulted in the Greeks being among the EU's strongest supporters.

However, their new awareness mainly concerns socioeconomic issues. There is far less debate about Greek citizens' sociocultural identity in the expanded EU and the function of English as a possible medium of communication in the new Europe (cf. Jenkins, Modiano, & Seidlhofer, 2001). This tendency to focus on socioeconomic issues implies that, in their responses to our questionnaire, Greek teachers may not have been aware of the wider European dimension of English.

The picture becomes more complicated when one considers the massive inflow of foreign immigrants. The corresponding legalisative procedures and the present conditions of high unemployment and increasing economic uncertainty (Fakiolas, 2003) have contributed to widespread negative opinions about immigrants (Dimakos & Tasiopoulou, 2003) and the little interest that Greeks generally show in the immigrants' own sociocultural identity and communicative habits (Demetriou, 2004; Giavrimis, Konstantinou, & Hatzichristou, 2003). This negative opinion of immigrants has resulted in strong feelings about the Greek used in the communication between Greeks and groups of foreign immigrants. It is therefore important to interpret the EFL teachers' perceptions about English pronunciation teaching against this backdrop. If the Greeks feel that the purity of their own language is threatened by the languages of the immigrants, they are probably more likely to uphold strong views about the importance of inner-circle norms for the international lingua franca.

Research Questions

In this study, we examined teachers' beliefs about the importance of NS accents and their role in pronunciation norms. We then examined teachers' preferences for teaching practices that promote communication and pronunciation learning. We focused on examining teachers' beliefs and preferences in relation to their specific teaching contexts (i.e. primary, lower secondary, and upper secondary levels), to find out whether there is a relation between teachers' beliefs about pronunciation norms, their preferences, and their teaching practices.

Finally, we tried to establish the extent to which Greek teachers take an EIL perspective in response to the ownership of English and whether they hold stereotypical attitudes toward inner-circle varieties (Ladegaard, 1998). Our goal was to explore whether their teaching practices are consistent with their beliefs about pronunciation norms.

METHOD

Participants

A survey was administered to EFL teachers teaching in Greek state schools. A total of 650 questionnaires were distributed. The questionnaires were accompanied by a cover letter that explained the overall aim of the study, instructions for the questionnaire, and the benefits that the study would yield. The response rate was 75 percent. The 421 teachers of English who responded to our survey are all university graduates, holding at least a B.A. degree in English language and literature or equivalent, as required by the Greek educational system. Because we hypothesised that the teaching situation was likely to influence teachers' beliefs and guide them toward adopting particular methodological approaches, all subjects were categorised into three distinct teaching domains (i.e., primary level, lower secondary level, or upper secondary level).

The descriptive characteristics of the teachers who responded are shown below. Females constituted 90% of the sample, and only 5% claimed to be NSs. Only 11% held a postgraduate degree.

Participants' Ages	
21–30	12%
31–40	51%
41–50	33%
51+	5%

Participants' Years of Teaching Experience	
0–1	8%
1–5	18%
5–10	26%
10–15	35%
15+	13%

Levels at Which Participants Taught	
Primary (N = 174)	41%
Lower secondary (N = 125)	30%
Upper secondary (N = 122)	29%

The number of the responses received was greater than the sample (N = 421) used for this study. Some respondents were excluded because they did not fit the categories: For example, a number of teachers worked in private primary or secondary schools; some were appointed in technical vocational schools (a subdivision of Greek upper secondary-level schools); and others taught both at the lower and upper secondary levels.

Survey Administration and Analyses

The questionnaire (see Appendix) was pilot-tested with 45 Greek teachers of English and then revised. We originally intended to survey a random sample across the three teaching domains. However, to guarantee a greater response rate, we used school directories to contact those teachers throughout Greece who had shown an interest in taking in-service teacher training courses during the previous year.

The questionnaire contained both closed and open-ended questions.

Respondents were required to (a) mark their responses on a five-point Likert scale ranging from "always" (1) to "never" (5) and from "extremely" (1) to "not at all" (5), depending on the type of question; (b) rank in order of importance; and (c) provide further comments where requested. The first part of the questionnaire provided the participants' profile in terms of age, qualifications, years of teaching experience, and current teaching situation. The rest of the questionnaire included three types of questions: The first set of questions (Questions 7–9) asked about respondents' views regarding accent-related issues. The second set (Questions 10–12) asked about pronunciation and oral communication teaching practices. The last question (13) asked about the ownership of English.

Regarding the open-ended sections, we classified teachers' responses and subsequently coded them to yield quantitative data. To ensure reliability, an independent rater also classified and coded these sections. The interrater reliability was .92; those areas that were disputable were reconsidered and analyzed until a point of agreement was reached. The data were processed and analyzed using SPSS software. Results were analyzed using chi-square and the crosstabs procedure, which was applied to determine the relationship among the teachers teaching within the three different proficiency levels (i.e. primary, lower secondary, and upper secondary) regarding their beliefs, preferences, and teaching practices. We also employed the adjusted standardised residual (ASR) to identify the categories responsible for significant chi-square values. The ASR is used to determine where differences occurred and the direction of the difference; if the absolute value of a given ASR is larger than 1.96, the corresponding cell is considered to contribute significance to the chi-square value (Haberman, 1973). The statistical significance level for all questionnaire data was set at $p < .05$.

RESULTS

Accent

Teachers from all three teaching contexts were highly satisfied with their own accents, with 41 percent who were fairly satisfied and 50 percent who claimed to be "very proud" or "extremely proud." There were no significant differences among the teaching contexts. Teachers' beliefs about their accents seemed to be associated with their authority as role models in the classroom, and as such they believed that they ought to strive toward attaining what they identify as a good English accent.

Respondents were also asked to provide reasons for their answers and in some cases offered more than one reason (Table 1). Two reasons

TABLE 1

Teachers' Reasons for Their Attitudes Toward Their Own English Accent

	Primary		Lower Secondary		Upper Secondary		Total				
Reason	N	%	N	%	N	%	N	%	df	χ^2	*p*
Being actively engaged in language use	38	76	11	22	1	2	50	12	2	31.782	.001
Sounding native-like	30	32	29	31	36	38	95	24	2	6.452	.05
Having lived/ been abroad	11	32	14	41	9	27	34	8	2	2.491	n.s.
Affected by L1 features	8	28	9	31	12	41	29	7	2	3.162	n.s.
Unimportant	6	55	1	1	4	36	11	3	2	2.294	n.s.
Not enough exposure	41	39	35	33	30	28	106	26	2	.846	n.s.
Being a native speaker	6	35	6	35	5	29	17	4	2	.358	n.s.

Note. $N = 405$.

showed significant differences between groups. Primary-level teachers were proud of their English accent because they are actively engaged in language use, that is, conversations with NSs (ASR = 5.3), and upper secondary-level teachers believed that they sounded native-like (ASR = 2.2). Both groups of teachers seemed to adopt a NS (norm-bound) perspective in that their reasons reflect their belief that English is associated with the native speakers of the language.

A careful look at the relationship between the teachers' attitudes toward their own accent and their justifications portrays a close link between their claiming to feel proud of their English accent and their belief that they (a) sound native-like, (b) are actively engaged in language use, and (c) are native speakers (Table 2). The results also suggest that those teachers who were less proud ("fairly") of their English accents believe that they lack adequate exposure to the language. Thus it seems that teachers associate being proud of their accents with exposure to English. Those teachers who claimed to be very content with their English accent were also more likely to seek various avenues for improvement, such as the use of dictionaries and opportunities for exposure to the language (ASR = 3.9).

When asked "Do you think it is important for your learners to acquire a native-like accent?," teaching context appeared to be a significant predictor of teachers' attitudes. Primary-level teachers believed that attaining a native-like accent is very important (ASR = 2.4), whereas the upper secondary-level teachers considered improving their learners' pronunciation less important (ASR = 2.6). This result appears to reflect

TABLE 2

Relating Teachers' Attitudes Toward Their Accent to Their Justifications

Reason ("how proud they are")	Extremely		Very		Fairly		Not much/ Not at all		Total			
	N	%	N	%	N	%	N	%	N	df	χ^2	*p*
Being actively engaged in language use	4	8	33	65	14	27	—	—	51	3	17.303	<.001
Sounding native-like	17	18	73	77	5	5	—	—	95	3	97.272	<.001
Having lived/ been abroad	7	21	24	71	3	9	—	—	34	3	24.278	n.s.
Affected by L1 features	—	—	1	4	23	82	4	14	28	3	27.208	n.s.
Unimportant	—	—	1	10	8	80	1	10	10	3	7.360	n.s.
Not enough exposure	—	—	1	1	79	76	24	23	104	3	147.137	<.001
Being a native speaker	14	82	3	18	—	—	—	—	17	3	90.930	<.001

Note. Due to rounding, percentages may not add up to 100. $N = 401$.

a norm-bound teaching orientation in the earlier stages of education, but a diminishing focus on accent as learners get older (Table 3).

Table 4 shows the connections between teachers' attitudes toward achievement of a native-like accent and their reasons for this position. The results indicate two important findings. First, those teachers who indicated that they believe in promoting a native-like accent do so because they believe that learners need to communicate with NSs and

TABLE 3

Teachers' Attitudes Toward Their Learners Acquiring a Native-like Accent

Level	Extremely		Very		Fairly		Not much/ Not at all		Total
	N	%	N	%	N	%	N	%	N
Primary	12	7	75	4	50	29	33	19	170
Lower secondary	9	7	51	42	37	31	24	20	121
Upper secondary	9	8	26	22	51	44	31	26	117
Total	30	7	152	37	138	34	88	22	408

Note. Due to rounding, percentages may not add up to 100. $N = 408$, χ^2 (6) = 16.570, $p < .01$.

TABLE 4

Relating Teachers' Attitudes Toward the Importance of Learners' Attainment of a Native-like Accent to Their Justifications

	Extremely		Very		Fairly		Not much/ Not at all		Total			
Reason	N	%	N	%	N	%	N	%	N	df	χ^2	*p*
To communicate with NSs	7	24	20	69	2	7	—	—	29	3	34.090	<.001
To communicate intelligibly	5	2	53	24	103	47	59	27	220	3	70.095	<.001
To advance in career	—	—	6	50	6	50	—	—	12	3	5.004	n.s.
To develop confidence	14	21	46	70	4	6	2	3	66	3	74.306	<.001

Note. $N = 394$.

because they believe that a native-like accent will help NNSs develop confidence (ASR = 6.0). Both of these reasons support a NS norm-bound perspective. Second, those teachers who considered native-like accents as only "fairly" important identified intelligibility as a more important goal (ASR = 5.9). This result leads to a paradox. A significant number of teachers who had a norm-bound perspective also believed that promoting intelligibility in communication is of great value. Nonetheless, although all teachers felt that native accents were important as accent models, only a very small number of respondents saw an intelligible accent as an appropriate model.

Teaching Practices

Our hypothesis was that teachers who promoted the attainment of a native-like accent would also emphasise different teaching practices from those teachers who did not believe that promoting the attainment of a native-like accent was important. One question in this area referred to respondents' beliefs about communication in general; the others asked about specific practices.

Question 11 asked teachers to rank which was more important when using English: "to be able to communicate effortlessly," "to be able to communicate, even if with some comprehension problems," or "to avoid using Greek at any cost." The results showed no significant differences between teaching contexts. However, the majority of teachers thought that successful communication should be promoted when communicat-

ing in English, even at the cost of some comprehension problems (this has been tagged the *culture-bound* approach to communication, as opposed to the *norm-bound* approach, which prioritises accuracy in communication; for more on these approaches, see Sifakis, 2004). In this regard, very few teachers took up an accuracy perspective, probably reflecting a more traditional EFL classroom-oriented situation, which posits that promoting target language acquisition requires that the use of the native language be curbed.

Questions 10 and 12 examined specific teaching practices in the three education levels. The responses to Question 10, "To what extent do you provide immediate or delayed feedback on your learners' performance regarding English pronunciation?," indicated that primary- and lower secondary-level teachers viewed pronunciation teaching in a more accuracy-oriented manner (Table 5). The percentage of primary-level teachers who always provide feedback was substantially greater (ASR = 2.0) than their upper secondary-level colleagues, who were more likely to rarely or never resort to feedback concerning pronunciation errors (ASR = 2.2). Teachers apparently feel that pronunciation errors should be addressed strongly in early schooling, where learners are much more sensitive auditorily and when vocal-tract articulation has more plasticity.

Question 12 asked respondents how often they use certain methodological practices. Five practices were examined: real conversations among NSs, authentic conversations between NSs and NNSs, role playing assuming NNS roles, role playing assuming NS roles, and authentic videos including NSs and NNSs. Teachers claimed to incorporate authentic conversations between NSs (i.e., discourse exchanges produced by NSs that reflect real-life communicative contexts) very often (32%) or regularly (29%). Results were significant ($p < .01$) for primary-level teachers, who rarely expose their learners to real conversations (ASR = 2.3), and for lower secondary-level teachers who do so quite often (ASR = 3.0). Primary-level teachers may feel that real conversations

TABLE 5
Teachers' Provision of Immediate or Delayed Feedback During Pronunciation Teaching

	Always		Very often		Regularly		Rarely/Never		Total
Level	N	%	N	%	N	%	N	%	N
Primary	38	22	60	35	60	35	15	9	173
Lower secondary	20	17	35	29	46	38	20	17	121
Upper secondary	14	12	31	26	48	41	24	21	117
Total	72	17	126	31	154	38	49	12	411

Note. Due to rounding, percentages may not add up to 100. $N = 411$, χ^2 (6) = 13.919, $p < .05$.

among NSs should be tackled at later stages of learning, and that tailor-made (but artificial) conversations, which contain prescriptively correct use of English, may be more appropriate for learners at the primary level. However, this approach also deprives learners of real language use and exposure to NS pronunciation models. Similar findings arise in relation to implementing authentic NS–NNS conversations. Primary-level teachers rarely use such conversations (ASR = 2.0), but lower secondary-level teachers incorporate this type of activity quite often (ASR = 3.2).

Results showed no significant differences between groups for role-playing activities in which learners assume NNS roles. Regarding role-playing activities assuming NS roles, the majority of teachers in all three levels claimed to implement them regularly (40%) or very often (29%). Three results are important: (a) Lower secondary-level teachers were more likely to prompt their learners to assume NS roles in classroom activities (ASR = 3.1); (b) upper secondary-level teachers rarely incorporate such activities (ASR = 2.4), and (c) a greater percentage of primary-level teachers stated that they never use such role-plays (ASR = 3.6). Although these results imply a norm-bound approach to teaching, they should be viewed with caution because such activities are normally implemented at the primary level, when young learners are believed to have fewer inhibitions.

Respondents reported that they rarely use authentic videos incorporating NS–NNS communication in any teaching context: Overall, teachers abstain from using such videos, which may not be related to their belief that such activities are not worthwhile but to the lack of technical equipment in the school, time limitations, and other factors.

Ownership of English

Teachers were also asked about the ownership of English, a central issue in an EIL approach to pronunciation. Responses showed no significant differences among the teachers at the three levels (primary, lower secondary, and upper secondary). More than 70% of the respondents said that English belongs either to NSs or to people with NS competence; 50% selected "the native speakers (independently of nationality)"; and 23% said that "anyone fluent enough to speak the language without major problems" was a rightful owner. Very few took an EIL perspective: Only 8% chose as owners "speakers of the language (independently of problems)" and 2% chose bilingual speakers ("those whose mother tongue is another language, but have grown up using English as well"). The probable reason is that the teachers' main teaching position does not affect their views about ownership. These beliefs seem to refer to the language system and bear no relevance to

their affiliation. Identifying NSs as the rightful owners of English reflects a strong norm-bound perspective that conflicts with the stated views of some teachers that they should promote intelligibility rather than accuracy when teaching accent.

DISCUSSION

In this article, we asked EFL teachers in Greece about their views concerning accent, pronunciation teaching practices, and ownership of English. In doing so, we wanted to establish whether they see pronunciation as merely another subject that they have to cover in the classroom in a particular way (i.e., the NS way) or as a means of helping to make their learners sound intelligible to their interlocutors (NS or NNS) outside the classroom. The results mark a paradox. On the one hand, when asked about their current pronunciation practices, teachers seemed to hold a strongly norm-bound perspective and to focus on teaching standard NS pronunciation models. On the other hand, when asked about what they think normal communication between NNSs is like, they seemed to believe that none of the rules and standards counts as much as the need to create a discourse that is appropriate for the particular communicative situation and comprehensible for all interlocutors.

We believe that it is possible to make sense of this paradox in two ways: (a) with reference to a teacher- and teaching-oriented understanding of language issues and (b) with regard to the wider sociopolitical and intercultural scene in Greece.

Regarding the teacher- and teaching-oriented understanding of language issues, it can be argued that the predominantly norm-bound perspective of the Greek state school teachers is closely linked to the extent to which the teachers see themselves as certified (i.e., degree-holding) custodians of the English language in Greece. They believe that the EFL classroom is a place for teaching the language and for preparing learners for standardised exams rather than a place where learners are exposed to different international varieties of English. Teachers believe that they are expected to represent a NS norm, and that this norm should be reflected both in the way they use English (and especially so in pronunciation, hence their belief that their accent is quite accurate) and in their teaching practices (suggested by their views about role playing and feedback). Our research has shown that this perspective seems most dominant in lower level and younger learner contexts because teachers feel responsible for the younger learners' proper acquisition of the target language and pronunciation. As the learners become teenagers and young adults, teachers feel that they cannot do much about pronunciation other than expose learners to NS uses of the language.

However, it should also be possible to extend our discussion of these views beyond the strictly teaching-oriented framework. Teachers' views about pronunciation extend beyond the language classroom and are bound to reflect their beliefs about more general issues, such as their identity as teachers and users of English in an expanding-circle country, their understanding of pedagogic practice, and of relationships between knowledge and power, identity and communication (Bernstein, 1996; Bourdieu, 1991). In the Greek context, teachers' NS norm-bound perspective can be understood against the backdrop of modern Greece as a traditionally monolingual society. It is also possible that the recent diglossia phenomenon has further reinforced Greek speakers' awareness of "good" and "bad," or "correct" and "incorrect" varieties in their mother tongue, and that this awareness has had repercussions on their beliefs about English as well. Furthermore, the fact that Greek EFL teachers seem to equate a "good" accent with a "native-speaker" accent can be enhanced by a sense of safeguarding their own mother tongue against its "disparaging" uses by immigrants. All these explanations are strengthened even further by the prevalence of (NS-oriented) proficiency tests in Greece. Of course, these are ideas that need to be further explored with more specialised research on the deeper links between teachers' views about English and their own language.

At the same time, of course, teachers also seemed to recognise that NS accents are not always crucial or essential. When asked about communication in general, our respondents portrayed a quite different perspective, one that was not tied up with norm-bound concerns but rather acknowledged that the ability to communicate was central, even if there were problems with understanding. This viewpoint deemphasises accuracy (of pronunciation and other language features) and suggests that teachers recognise that mutual intelligibility is at least as important a consideration as a native-like accent. This result suggests that Greek teachers seem open to the belief that lingua franca uses of English need not be norm bound. However, they also clearly do not believe that this idea should (or need) be reflected in their teaching for the following reasons.

- They identify any language with its native speakers; with regard to pronunciation, they believe it to have some very specific features that learners, especially young learners, should acquire.
- They identify pronunciation as a feature of language that, once acquired, is static rather than dynamic—each speaker (whether NS or NNS) has a particular accent that they use in all contexts; this attitude toward pronunciation also explains why one can boast of having a good English accent without referring to any specific communicative context.

- They are not very aware of the international spread of English; if they are, they tend to see it as a potential threat to other languages rather than as an opportunity for communication with other NNSs.
- Their teaching situations are very norm oriented—all Greek EFL learners have to acquire certification of their competence in English, and the tests that they sit are in line with NS norms.

These attitudes raise certain implications for EFL teacher training in Greece and the expanding circle. It is likely that most of these teachers are not aware of the international spread of English and its implications for instruction. Awareness can be achieved either through academic study (at a postgraduate level or in-service seminars) or through firsthand experience, but it seems clear that neither avenue is common. For this reason, we suggest that both pre- and in-service teacher training explicitly address the EIL situation (e.g., see Jenkins, 2000, pp. 218–231). Such training can refer to the immediate geopolitical environment—in our case, the NNS–NNS communication characteristics of the wider Balkan and European Union regions. Once teachers have become aware of issues related to EIL and their implications, they should be persuaded to study the varieties of English used (as attested in existing NNS corpora, e.g., Granger, 2003; Mauranen, 2003; Seidlhofer, 2001, 2004) and reflect on issues of identity and ownership of the international lingua franca. Also, it is important that the testing instruments implemented by the major EFL examination bodies deemphasise traditional NS norms and focus more on the intercultural communicative competence of their candidates (Andrews & Fay, 2000). This change in emphasis can be supplemented with training in the creation, selection, or adaptation of appropriate courseware. Through such practices, the teachers will ultimately become custodians of EIL as well.

CONCLUSION

Our research has shown that Greek EFL teachers' norm-bound views on pronunciation teaching are influenced by (a) their natural role as the legal guardians of the English language with respect to their learners (and the wider community); (b) their immediate identification of any language with its native speakers, something which is reinforced by the country's diglossia and recent immigrant inflow; and (c) their lack of awareness of issues related to the international spread of English.

In all probability, the situation described in this article is repeated in many other expanding-circle countries. Although the spread of English implies a deemphasis of NS norms, our study has shown that NS norms are still dominant in Greek teachers' beliefs about their own pronunciation

and teaching. Their assumption that NS norms should be central can only be challenged by further education. Such education should be as local as possible, and in our case it should begin with teachers' awareness of how English functions in the teachers' immediate surroundings (in this case, the European Union and the Balkans).

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APPENDIX

QUESTIONNAIRE for TEACHERS of English

Please tick ✓ your answers unless otherwise stated.

Age : ❑ 21–30 ❑ 31–40 ❑ 41–50 ❑ 51+

Gender : ❑ Male ❑ Female

Years of teaching experience : ❑ 0–1 ❑ 1–5 ❑ 5–10 ❑ 10+

Professional qualifications :
❑ BA in English Language and Literature
❑ MA in _____ ❑ Other _____

Current (main) teaching situation—*(your following answers will be associated with this post):*
❑ Primary level ❑ Secondary level (Gymnasium) ❑ Secondary level (Lyceum)
❑ Other _____

Are you a native speaker of an English dialect?
❑ Yes (which one? _____)
❑ No (I am: _____)

Are you proud of your English accent?
❑ extremely ❑ very ❑ fairly ❑ not much ❑ not at all

Briefly give reasons for your answer: _____

Do you think it is important for your learners to acquire a native-like accent?
❑ extremely ❑ very ❑ fairly ❑ not much ❑ not at all

Briefly give reasons for your answer: _____

Which pronunciation accent would be best for your learners, in your view?

_____

To what extent do you provide immediate or delayed feedback on your learners' performance regarding English pronunciation?
❑ always ❑ very often ❑ regularly ❑ rarely ❑ never

Briefly give reasons for your answer: _____

Which of the following is more important when using English? *Please rate in order of importance (1: most important):*

- ❑ to be able to communicate effortlessly.
- ❑ to be able to communicate, even if with some comprehension problems.
- ❑ to avoid using Greek at any cost.

Do you use any of the following?

real conversations among native speakers
❑ always ❑ very often ❑ regularly ❑ rarely ❑ never

real conversations between native and non-native speakers
❑ always ❑ very often ❑ regularly ❑ rarely ❑ never

role-playing assuming roles of people from other countries
❑ always ❑ very often ❑ regularly ❑ rarely ❑ never

role-playing assuming roles of native speakers of English
❑ always ❑ very often ❑ regularly ❑ rarely ❑ never

authentic videos with native and non-native speakers
❑ always ❑ very often ❑ regularly ❑ rarely ❑ never

Who do you consider to be the 'rightful owner' of the English language? *Rate in order of importance (1: most important).*

- ❑ the native speakers (independently of nationality).
- ❑ those whose mother tongue is another language, but have grown up using English as well (i.e. they're bilinguals).
- ❑ anyone fluent enough to speak the language without major problems.
- ❑ anyone who attempts to speak the language (independently of problems).
- ❑ no one.

Thank you for your cooperation!!!

Learners' Ethnic Group Affiliation and L2 Pronunciation Accuracy: A Sociolinguistic Investigation

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This article examines the relationship between ethnic group affiliation (one's sense of belonging to a primary ethnic group) and second-language (L2) pronunciation accuracy defined here as native-like, nonaccented L2 speech or L2 speech that contains no first language (L1) influences. The study addressed these questions: (a) Is there a relationship between learners' L2 accent and ethnic group affiliation as perceived by fellow learners? (b) If such a relationship exists, what are its behavioural consequences? The studies reported in this article involved L2 learners from two ethnic groups (Francophone and Chinese in Quebec) in two different sociopolitical contexts (conflictual and nonconflictual) listening to fellow learners speak an L2 and estimating these learners' degree of ethnic group affiliation. Results revealed a relationship between learners' L2 accent and perceived affiliation to their home ethnic group, suggesting that learners treat their peers' L2 accent as an indicator of these peers' degree of ethnic affiliation. Results also revealed behavioural consequences of this relationship, suggesting that L2 learning entails choices between the reward of being efficient and the cost of not marking identity. Overall, the findings highlight the need to consider group-engendered factors in understanding the acquisition of accuracy in L2 pronunciation. Implications of these findings for L2 pronunciation development, classroom L2 pronunciation teaching, and negotiation of L2 learners' language identity are discussed.

A survey of the research literature on the promotion of pronunciation fluency and accuracy in an L2 reveals two foci. One addresses learner variables influencing the acquisition of pronunciation fluency and accuracy (Leather & James, 1996); the other addresses the effectiveness of instruction in promoting this acquisition (e.g., Bradlow, Pisoni, Akahane-Yamada, & Tohkura, 1997; Derwing, Munro, & Wiebe, 1998). Situated in the context of investigating what factors affect L2 pronunciation learning, this article examines the influence on L2 pronunciation accuracy of one relatively unexplored learner variable: ethnic group affiliation.

Several learner factors have been investigated for their effect on L2 pronunciation learning. One is age, a variable that has received perhaps the most attention in the literature (e.g., Flege, Yeni-Komshian, & Liu, 1999). Other factors include individual differences such as intelligence and aptitude (for a summary, see Segalowitz, 1997) and socially oriented variables such as learner attitudes toward the target-language group and motivations based on the perceived rewards of L2 learning (Clement, 1980; Gardner & Lambert, 1972). Originally investigated for their effects on general L2 proficiency, these factors have recently been studied in the context of L2 pronunciation learning (Moyer, 1999, 2004). Personality variables such as empathy have been linked to L2 pronunciation as well. Guiora, Brannon, and Dull (1972), for example, found that learners of Japanese who were more empathic (i.e., saw more changes in facial expressions in a film clip) sounded more authentically Japanese than those who were less empathic. Later, Guiora and his associates (Guiora, 1992; Guiora, Beit-Hallalami, Brannon, Dull, & Scovel, 1972) discussed language ego states and ego permeability as important variables affecting L2 pronunciation achievement.

Striking in this literature, however, is the scarcity of research investigating factors contributed by learners' primary reference group—that is, the *ethnic group* they were born into—and the target language group. These groups shape their members' behaviour by imposing norms that are difficult to ignore. For instance, Italian Canadians experience various pressures to constantly adjust their language to avoid being ascribed stereotypical judgments about being Italian in some contexts and being wrongly perceived as non-Italian in others (Giampapa, 2004). These group-engendered forces (GEFs) differ from the socially oriented attitudinal and motivational learner variables mentioned earlier in that they emanate from social groups and not from individuals.

Although some studies have examined the role of GEFs in L2 acquisition (e.g., fear of a threat to the group's identity or adherence to group-held beliefs and myths; see Hinenoya & Gatbonton, 2000; Taylor, Meynard, & Rhéault, 1977), these are few and far between. But even when GEFs are addressed, they are often correlated only with general L2

proficiency (e.g., Taylor et al., 1977; Taylor & Simard, 1975); seldom, if at all, are they correlated with L2 pronunciation accuracy.

This lack of attention to the role of GEFs in promoting L2 pronunciation accuracy is surprising considering that accent (the most "visible" aspect of pronunciation) has been documented to elicit various stereotypical judgments of socioeconomic status, race, ethnicity, gender, and personality (Lambert, 1977, 1980, 1987; Lambert, Hodgson, Gardner, & Fillenbaum, 1960). Even pupils' scholastic ability is judged on the basis of their L2 accents (e.g., Seligman, Tucker, & Lambert, 1972). L2 accents have also been used to indicate distinctiveness. For example, a group of Welsh language learners broadened their Welsh accents in English to distance themselves from a British speaker who challenged their desire to resurrect Welsh as a native language (Bourhis & Giles, 1977; for a similar phenomenon with Belgian French, see Bourhis, Giles, Leyens, & Tajfel, 1979). More recent studies have shown that speech can be used in negotiating identities. For example, black Dominican American teenagers manipulate their speech to emphasize their blackness in one instance and their Latin origins in another, thereby expressing the identity that fetches the better social rewards from their interlocutors (Bailey, 2000). These examples cast language as a powerful commodity that can be exploited by those in power, as well as those who are not, to exclude some and include others (Norton, 2000; Pavlenko & Blackledge, 2004), creating consequences for the job market (Heller, 1982) and education (Miller, 2004). Although these recent studies do not single out accent, examples from past studies clearly show that it can invite the most stereotypical reactions. Speech, in fact, has been shown to be a stronger cue than physical features or abilities in inviting evaluative judgments (Seligman et al., 1972).

The manipulability of accents for social purposes suggests that its development may be shaped by GEFs. Taylor, Meynard, and Rhéault (1977) were the first to examine this idea. They suggested that a perceived threat to an ethnic group's stability might be a barrier to L2 learning, ranging from limiting the level attained to preventing learning altogether. They found that Quebec Francophone learners who felt a greater threat to their group were significantly less proficient in English than those who felt a lesser threat. In fact, contact and threat to identity were related to L2 proficiency more significantly than was instrumental or integrative motivation (Taylor et al., 1977). In addition, Japanese learners' stronger adherence to cultural beliefs and language-learning myths (such as the fact that only Japanese minds are suited for learning Japanese) have been associated with lower proficiency and less extensive overall English use (Hinenoya & Gatbonton, 2001). These findings suggest that, besides instructional and learner characteristics, GEFs must be taken into account in understanding L2 proficiency development.

Although the GEFs examined in these studies are strong candidates for influencing the direction and nature of L2 achievement, they represent a very small portion of possible factors and do not focus on pronunciation accuracy as part of L2 achievement. Moreover, these factors also have a limited range of applicability. Not all groups learning an L2 are in conflict situations where threat is a factor. In addition, although all societies have myths, most of them do not have themes that are as focused on language learning as are the Japanese myths.

Wider in applicability to many L2 learning contexts, *ethnic group affiliation,* that is, a sense of belonging to one's ethnolinguistic group, is a GEF worth investigating. Virtually everybody has this sense of belonging, socially constructed as individuals grow up amid families and friends (Aboud & Skerry, 1984; Hamers & Blanc, 1992). From this socialization, they develop a sense of pride in being part of a particular group, sharing its worldview, and adopting its behavioural norms.

Normally, ethnic group affiliation exists quietly, acknowledged by all, but not subjected to much discussion or questioning. But when people come into contact with other groups—when they move to new settings in search of better social, educational, and economic opportunities, or as others move to their country for similar reasons—their contact with other groups foregrounds group identity and affiliation issues. In these instances, individuals first weigh the rewards and costs of identifying with or differentiating themselves from a group and then adopt a behaviour reflecting this decision (Frassure-Smith, Lambert, & Taylor, 1975). If they belong to ethnic groups for whom language is a symbol of identity, they use language to reflect, reaffirm, renegotiate, or reconstruct these identities.

Language learning is a case in point. Language learners are typically subject to social forces arising from both the target- and home-language groups, pressuring them to constantly renegotiate their identities as members of both groups. In doing so, learners may either enhance or suppress one of their two identities by manipulating their language, in particular, their pronunciation of both languages. It is in this sense that one can hypothesize that ethnic group affiliation may affect the acquisition of L2 pronunciation. This issue is addressed in our research.

Two studies are presented that examined the relationship between ethnic group affiliation and L2 pronunciation accuracy. *Pronunciation accuracy* (henceforth, *accent*) was defined as the degree to which learners' speech is free of segmental and suprasegmental features characteristic of their native language. The two studies were conducted 30 or so years apart and involved L2 learners from two ethnic groups in two different sociopolitical contexts (a conflictual and a nonconflictual setting) listening to fellow learners speak an L2 and estimating these learners' degree

of ethnic group affiliation on the basis of this L2 speech. The questions addressed were (a) Is there a relationship between learners' L2 accent and their ethnic group affiliation as perceived by their fellow learners? and (b) If such a relationship exists, what behavioural consequences are associated with it?

STUDY 1

This study (conducted in the 1970s, but previously unpublished; Gatbonton, 1975) examined the attitudes of native Francophone learners toward their peers learning English in Quebec when Québécois nationalism was intense. It was hypothesised that if language is a symbol of ethnic identity, there would be an intimate relationship between language and ethnic group affiliation and it would be strongest for groups in conflict—that is, when individuals are compelled to renegotiate their identity. Examined in this study was the issue of whether Quebec Francophone learners' pronunciation of English would be used by their peers to gauge their degree of affiliation to the Francophone ethnic group.

Participants

The participants (henceforth, *listeners*) were 24 Francophone learners of English from Montréal selected from two intact English classes (N = 44) at a local junior college who were asked to listen and react to the taped voices of Francophones speaking both English and French. The listeners were all native speakers of French, had been residents in Montréal since birth, and had varying degrees of loyalty to Francophone Quebecers as measured by a self-rated ethnic group affiliation questionnaire. The listeners were assigned to three groups of 8 listeners: (a) nationalistic listeners (those who rated themselves high on measures of pro-Francophone and low on measures of pro-Anglophone Canadian sentiments), (b) non-nationalistic listeners (those whose self-ratings showed the reverse pattern), and (c) liberal listeners (those who scored high on both sets of measures).

Materials

The materials included two stimulus tapes and a set of questionnaires.

Stimulus Tapes

Twenty-seven male Francophones between the ages of 19–30 ($M = 22$; henceforth, *speakers*) were first recorded reading an English passage and its French translation. The French and English readings of 6 of these 27 speakers were selected based on two criteria: They had been judged by 10 other native French speakers to have similar personalities on 10 personality traits (e.g., intelligent, sympathetic) and had been judged by 10 native English speakers to have varying levels of accentedness in English, with 2 speakers considered nonaccented, 2 moderately accented, and 2 heavily accented.

The selected recordings were organized onto two stimulus tapes for a matched-guise presentation (Lambert et al., 1960). Each tape contained the French and English readings of one nonaccented, one moderately accented, and one heavily accented speaker. The French and English readings were presented sometimes singly, that is, in French only (French guise), English only (English guise), or sometimes together (Double guise). The Double guise was included to contrast monolingual and bilingual presentation conditions. This contrast is not of immediate concern for this article, so only the data from the monolingual conditions (French only and English only) are discussed. The French and English readings of the 6 target speakers were mixed with 3 distracter readings from nontargeted speakers and then presented as though they came from 12 different speakers instead of only 3. The presentation order of the readings was randomized on each tape.

Questionnaires

Three questionnaires were used. The biographical data questionnaire sought demographic information about the listeners and their language-learning history. The ethnic group affiliation questionnaire assessed the listeners' degree of ethnic group affiliation. This questionnaire contained 7-point scales eliciting the listeners' responses to four pro-Francophone and four pro-Anglophone statements. These statements were chosen from a pool of 14 statements per language by a different panel of 14 native French and 14 native English judges, respectively. The ethnic group affiliation questionnaire had a self-rating and a speaker-rating version, used to rate the listeners' own and the speakers' ethnic group affiliation, respectively. Four behavioural scales measured the listeners' willingness to choose the speakers as leaders or members of a group collaborating on projects involving only Francophones (intragroup situation) or both Anglophones and Francophones (extragroup situation).

Procedure

The listeners were assembled in their classrooms by a French-speaking research assistant accompanied by the researcher. The listeners were informed that they would hear several speakers read a passage sometimes singly (only in French or only in English) and sometimes consecutively (in both languages). After hearing each speaker, they completed the speaker version of the ethnic group affiliation questionnaire and the behavioural scales. At the end of the 30-minute session, they completed the biographical data questionnaire and the self-rating version of the ethnic group affiliation scales.

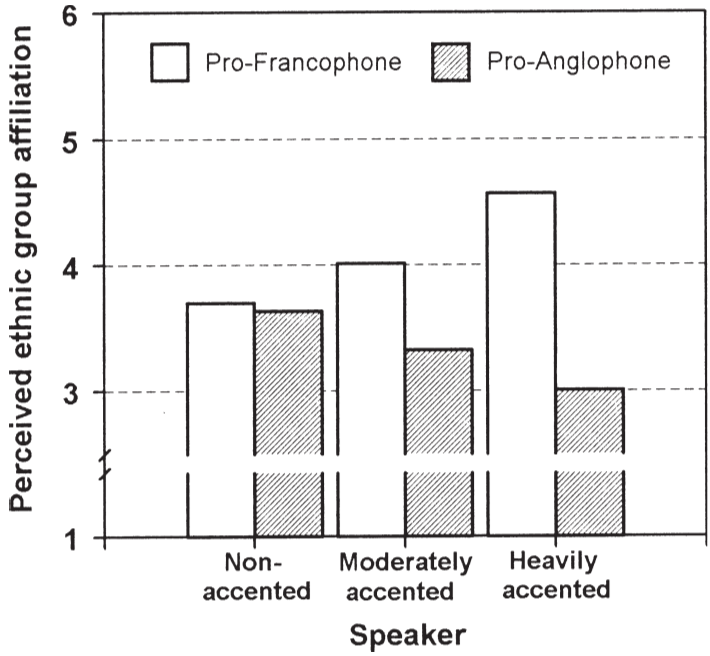
Results

To determine the relationship between the listeners' L2 accent and their perceived ethnic group affiliation, their responses on each of the four pro-Anglophone and four pro-Francophone scales were submitted to several three-way repeated-measures analyses of variance (ANOVAs) with group (nationalistic, nonnationalistic, liberal) as between-subjects factors and guise (French, English, Double) and accent (nonaccented, moderately accented, heavily accented) as within-subjects factors. In no case was there a significant main effect of group, indicating that the listeners' self-rated ethnic affiliation on each scale did not influence their rating of the speakers' affiliation. However, the analyses yielded significant main effects of guise on all the scales, Fs$(2, 21) > 5.10$, ps $<$ .05, and accent, Fs$(2, 21) > 4.66$, ps $< .05$, with no significant interactions involving these factors.

Follow-up comparisons exploring the accent effect (i.e., the effect that is most relevant to the question addressed in this article) indicated that the listeners responded differently to the different accents of the speakers. In particular, when compared on the four pro-Anglophone and the four pro-Francophone scales, the nonaccented speakers (and in most cases, the moderately accented speakers as well) were judged to be significantly more pro-Anglophone and less pro-Francophone than the heavily accented speakers. These findings are summarized in Figure 1.

To determine the behavioural consequences of the perceived relationship between L2 accent and ethnic group affiliation, the responses on the four membership and leadership behavioural scales were submitted separately to three-way ANOVAs with group (nationalistic, nonnationalistic, liberal) as between-subjects factors and guise (French, English, Double) and accent (nonaccented, moderately accented, heavily accented) as within-subjects factors. These analyses yielded a significant

FIGURE 1
Native Francophone Learners' Responses on the Pro-Anglophone and Pro-Francophone Scales



guise effect only on the membership intragroup scale, $F(2, 42) = 4.16$, $p < .05$, a significant accent effect on the leadership extragroup, $F(2, 42) = 4.96$, $p < .05$, and membership extragroup scales, $F(2, 42) > 6.73$, $p < .001$, and a significant group × accent interaction on the leadership intragroup, $F(4, 84) = 4.19$, $p < .01$, and membership extragroup scales $F(4, 84) > 3.07$, $p < 05$.

Follow-up comparisons of the leadership responses revealed the following findings. In the extragroup situation (when Francophones work with Anglophones), all listeners, regardless of their own ethnic group affiliation, significantly preferred as leaders the nonaccented speakers to the moderately accented and the heavily accented speakers. In the intragroup situation (when only Francophones are involved), however, the listeners' choices depended on their own ethnic group affiliation. The nationalistic listeners were less willing than the liberal and the nonnationalistic listeners to take the nonaccented speakers as leaders, preferring instead both the moderately accented and the heavily

accented speakers. The nonnationalistic listeners preferred the nonaccented over the moderately and heavily accented speakers.

Similar follow-up comparisons of the membership responses revealed that in the extragroup situation, the listeners' choices depended on their ethnic group affiliation. The nonnationalistic and the liberal listeners chose the nonaccented speakers over the moderately and heavily accented speakers whereas the nationalistic listeners did the opposite. In the intragroup situation, the participants did not seem to differ in their choice of group members; they saw all speakers as equally suitable.

Discussion

Results of this study revealed that L2 learners treated their peers' L2 accent as an indicator of these peers' degree of ethnic affiliation, suggesting a relationship between the two. Moreover, the listeners ascribed these judgments regardless of their own degree of ethnic group affiliation—the less accented their peers' L2 speech was, the less group affiliation they ascribed to them. Results also revealed that this relationship had certain behavioural consequences, most notably in the listeners' choice of peers as leaders. When choosing leaders in biethnic situations, all preferred the unaccented and the moderately accented speakers to the heavily accented speakers, suggesting that these listeners likely considered ethnic identification to be less important than efficiency in the L2. However, when choosing leaders in monoethnic situations, the nationalistic listeners preferred the moderately accented and the heavily accented speakers as leaders, perhaps weighting ethnic identification more than efficiency.

Taken together, the findings of this study established a link between the degree of accentedness of learner speech and the way others perceive their ethnic group affiliation. This link is perhaps most obvious in contexts where there is a perceived threat to ethnic group identity, with the possible consequence that peer pressures compel learners to either identify themselves with or distance themselves from one of the groups in contact. The context of this study was one in which there was a threat to the existence of French in Quebec. However, in the years since this study, French has become the only official language of the province and the threat to the existence of French is no longer as intense as before. More importantly, the context in which there is an apparent threat to ethnic group identity is not typical of all L2 learning situations (e.g., Northover & Donnelly, 1996). Therefore, one question that was asked in the second study was whether the relationship between learners' L2 accent and their ethnic group affiliation would emerge if the groups examined were not in conflict. This question was addressed in Study 2.

STUDY 2

Not all L2 learning situations involve groups in conflict or language competition. For example, French American students in Louisiana are comfortable with their two languages (Lambert, Giles, & Picard, 1975; Landry, Allard, & Henry, 1996). Similarly, although the Irish in Northern Ireland are engaged in political conflict with the English, the Irish language does not seem to be an integral core value so their sense of being Irish is not defined by their mastery of Irish (Northover & Donnelly, 1996). Pak, K. L. Dion, and K. K. Dion (1985) also document the case of the Chinese in Toronto who felt no tension in speaking both Chinese and English. In fact, even those who expressed greater confidence with their English than their Chinese had high self-esteem and felt a great sense of control over their lives.

The question raised in this study is whether in groups such as the Chinese, who see no apparent conflict between their two languages, the relationship between accent and perceived ethnic group affiliation would still obtain. This study examined the attitudes of native Chinese learners of English in Montréal toward their peers learning English to determine if a relationship between L2 accent and ethnic group affiliation exists when language groups involved are not in conflict and, if it does, whether it would have behavioural consequences. This study also investigated whether demographic variables (e.g., age), motivation, and perception of the role of language in identity affect this relationship and the possible behavioural consequences ensuing from it. Similar demographic variables were collected for the listeners and speakers in Study 1 but because that study was part of a larger investigation on linguistic variability, we did not examine the influence of these variables on the relationship between accent and perceived L2 ethnic group affiliation. Study 2, focusing on the relationship between pronunciation accuracy and ethnic group affiliation, provided an opportunity to look more specifically into the roles of these variables than could be done in Study 1.

Participants and Materials

The listeners were 84 adult Chinese learners of English at two Montréal universities. All were native speakers of Mandarin Chinese, born in Mainland China, and enrolled in degree programs in which English was the medium of instruction. As in Study 1, the materials included two stimulus tapes and a set of questionnaires.

Stimulus Tapes

Thirty native Chinese learners of English drawn from the same participant pool were first recorded reading a passage in English and the same passage in Chinese. The Chinese and English readings of 6 of these 30 speakers were selected based on two criteria: First, they had been rated by 10 native Chinese judges to have similar personalities on 10 personality traits (e.g., intelligent, friendly) and second, they had been rated by 10 native English judges to have varying levels of accentedness in English, with two speakers considered nonaccented, two moderately accented, and two heavily accented.

The selected recordings were organized onto six stimulus tapes. The first three (Set 1) represented three randomized orders of the recordings spoken by 3 of the 6 speakers, one nonaccented, one moderately accented, and one heavily accented. The remaining three (Set 2) contained the recording by the other 3 speakers. In each set, the Chinese and English readings were again presented with 3 distracter voices so that the voices seemed to come from 12 different speakers, instead of only 3. In each set, the English only (English guise), Chinese only (Chinese guise), and bilingual (Double guise) readings were presented in a counterbalanced order.

Questionnaires

Six questionnaires were used, each translated into Chinese. The listeners completed the translated version. The biographical questionnaire sought information about the listeners and their language-learning history. The ethnic group affiliation questionnaire assessed the listeners' degree of ethnic group affiliation. This questionnaire contained ten 7-point scales eliciting the listeners' responses to loyalty statements, constructed around five recurrent themes (two statements per theme): pride in being Chinese, defending the honour of the Chinese, participating in Chinese community affairs, supporting Chinese culture, and entrusting their personal problems to a Chinese. These statements were based on responses obtained from a group of 17 Chinese university students in Shanghai (similar in age and gender to the listeners in Study 2) who were asked to characterize a true and loyal Chinese person. As in Study 1, the ethnic group affiliation questionnaire had self-rating and speaker-rating versions.

The behavioural questionnaire measured the listeners' willingness to choose the speakers as leaders or members of a group engaged in group projects with only Chinese (intragroup situation) or both Chinese and Anglophones (extragroup situation) working together. An accidental

misprinting of the wording of one of the membership scales invalidated it so only the data on the two leadership scales were analysed. Three other questionnaires were also used: (a) a speaker accentedness scale asking the listeners to estimate each speaker's level of English accentedness, (b) a motivation scale containing eight questions examining the listeners' motivations (four integrative and four instrumental), and (c) a language and identity scale seeking the listeners' view concerning the role of Chinese in expressing Chinese culture and identity.

Procedure

The listeners were tested in groups of 10, with 52 listening to Set 1 tapes and 32 listening to Set 2 tapes. The listeners first completed the biographical data questionnaire, rated themselves on the scales for motivation and for language and identity, and completed the self-rating version of the ethnic group affiliation questionnaire. They then listened to the voices of male speakers reading a passage sometimes in English or in Chinese and sometimes in both languages. After hearing each speaker, they rated the speaker's English accent (in the English guise) and personality and completed the speaker version of the ethnic group affiliation questionnaire and the behavioural questionnaire. The testing session lasted approximately 60 minutes.

Results

Although all the speakers used in Set 1 and Set 2 tapes were previously judged by native English speakers to represent three different levels of proficiency, the listeners' ratings of the speakers' English accent in Set 2 did not represent the expected three levels of accentedness, but those in Set 1 did. In other words, only in Set 1 were the 3 speakers rated as significantly different from one another in terms of accentedness ($p < .025$). Thus, all subsequent analyses used only the data from Set 1 ($N = 52$).

The first set of analyses examined the relationship between L2 accent and perceived ethnic group affiliation, as a function of the listeners' perception of their own ethnic group identity. The listeners' five sets of ratings of their own ethnic group affiliation were first subjected to a Cronbach test of interrater reliability. This analysis yielded relatively high indexes (range .63–.77), indicating a high degree of internal consistency among the five ratings. These ratings were, then, averaged to derive one measure of ethnic group affiliation per rater. The listeners with a rating above the median of 5 were considered high in ethnic group affiliation, whereas those with a rating below 5 were considered low.

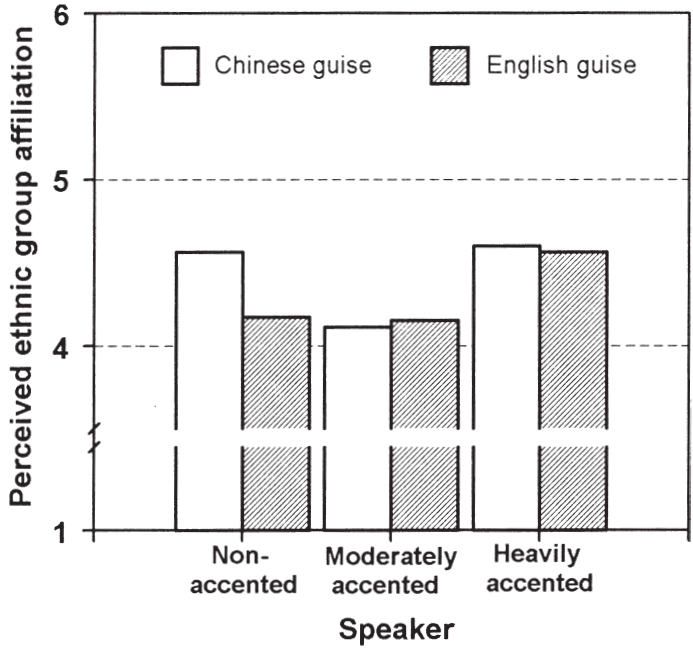
The listeners' responses on the speaker-rating version of the ethnic group affiliation questionnaire were then submitted to a three-way repeated-measures ANOVA with the listeners' self-rated ethnic group affiliation (high, low) as between-subjects factors and guise (Chinese, English, Double) and accent (nonaccented, moderately accented, heavily accented) as within-subjects factors. This analysis yielded a significant main effect of guise, $F(2, 102) = 18.06$, $p < .001$, and accent, $F(2, 102) = 6.80$, $p < .01$, and a significant guise × accent interaction, $F(4, 204) = 3.58$, $p < .01$, but no significant effects involving ethnic group affiliation.

Follow-up comparisons indicated that the listeners responded differently to the 3 speakers when these were presented in different guises. In particular, when the listeners heard the speakers in English only, they attributed greater ethnic group affiliation to the heavily accented than to the moderately accented and the nonaccented speaker. However, when the listeners heard the same speakers in Chinese, they attributed significantly lower ethnic group affiliation to the moderately accented than to the nonaccented and the heavily accented speaker. This latter result was surprising. Because the speakers were all heard in Chinese (their native language), it was not expected that any would be ascribed greater ethnic group affiliation than the others. Examination of the original speaker ratings showed that the moderately accented speaker spoke a nonstandard dialect of Chinese, which likely caused his low ratings in Chinese. These ratings were not considered further. Figure 2 presents these findings.

The second set of analyses examined whether age, gender, instrumental and integrative motivations, and attitudinal (perceived role of language in identity) variables affected the relationship between L2 accent and ethnic group affiliation. To examine effects of each demographic variable, the listeners were divided into males and females, and younger (19–27) and older listeners (28–40). To examine effects of the instrumental and integrative motivation as well as of the role of language in identity, one score was first derived for each rater by averaging this person's ratings on each measure. Then the listeners were divided into two groups—those who scored above or below the median rating for each of the three variables examined: instrumental motivation (median 6), integrative motivation (6), and language in identity (4.5).

The listeners' ethnic group affiliation ratings were then submitted to a series of three-way repeated-measures ANOVAs with age (younger, older), gender (male, female), instrumental motivation (high, low), integrative motivation (high, low), or language in identity (high, low) as between-subjects factors and guise (Chinese, English, Double) and accent (nonaccented, moderately accented, heavily accented) as within-subjects factors. The analyses by age, motivation, and language in identity yielded no significant effects involving these factors. This finding

FIGURE 2
Native Chinese Learners' Responses on the Ethnic Group Affiliation Scales in the Chinese and English Guises



suggests that the listeners' own degree of instrumental or integrative motivation, their age, or the role they ascribe to language in shaping their identity did not affect their ratings of the speakers. The analysis by gender yielded only a significant gender × accent interaction. Follow-up comparisons revealed the female listeners to be significantly more willing than the male listeners to ascribe higher ethnic group affiliation ratings to the speakers ($p < .02$).

The final set of analyses examined the behavioural consequences of the relationship between L2 accent and ethnic group affiliation. The listeners' choices of the speakers as leaders in the English guise were submitted to a three-way repeated-measures ANOVA, with the listeners' self-rated ethnic group affiliation (high, low) as between-subjects factors and accent (non-accented, moderately accented, heavily accented) and situation (intragroup, extragroup) as within-subjects factors. This ANOVA yielded a significant main effect of accent, $F\,(2, 102) = 70.03$, $p < .001$, a significant situation × accent interaction, $F\,(2, 102) = 4.15$, $p < .025$, but no significant main effect of ethnic group affiliation. Follow-up

comparisons revealed that the nonaccented speaker was preferred as a leader over the other two speakers in both the intra- and extragroup situations. This finding did not depend on the listeners' own ethnic group affiliation.

Discussion

Results revealed once again a relationship between L2 learners' accent and their affiliation to their home ethnic group. More importantly, this relationship was obtained in a situation that offered no apparent threat to the learners' ethnic group identity, suggesting that this link is a stable one and may be found in a variety of L2 learning contexts. As in Study 1, the relationship between the learners' L2 accent and their perceived group affiliation held regardless of their own allegiance to the group—that is, whether or not they considered themselves more or less loyal to their ethnic group. The finding that L2 learners' motivation, their perception of the role of language in defining identity, and their age had no significant effect on the relationship studied suggests that ethnic group affiliation represents a construct separable from motivational and attitudinal variables. The only significant influence on ethnic group affiliation ratings obtained in this study—that of gender—is perhaps traceable to differences in socialization of Chinese boys and girls (Kyratzis & Guo, 1996). Brought up in a largely male-dominated society, Chinese women may tend to ascribe positive traits, including loyalty, to Chinese men, especially to those who may be perceived as being bilingual.

Results of this study also reveal that the relationship between L2 learners' accent and their ethnic group affiliation has certain behavioural consequences. When choosing peers as leaders in mono- and biethnic situations, the learners preferred the nonaccented speaker to the moderately accented and heavily accented speakers. These findings contrasted with those obtained in Study 1. In that study, whenever ethnic identification was important (for nationalistic listeners in a monoethnic situation), the learners compromised the authenticity of English accent, choosing the moderately and the heavily accented speakers as their leaders. For the Chinese in this study, efficiency in the L2 was apparently important regardless of the situation in which they were called to participate and of their own degree of ethnic group affiliation. This difference in behavioural consequences is likely traceable to differences in learning contexts—a learning context in which there was a threat to ethnic group identity (Study 1) and one in which there was none (Study 2). Because the Chinese likely do not feel threatened by Anglophones and are not in conflict with them, they do not have as strong a need as

the Francophones in Quebec (Taylor, Bassili, & Aboud, 1973) or the Welsh (Bourhis & Giles, 1977) to represent their ethnic identity through accent. A visible minority in Canada, the Chinese may not need the added ethnic identification by accent to indicate their membership in the Chinese community.

GENERAL DISCUSSION

A proposal was presented earlier to include GEFs among the factors important to consider in understanding L2 pronunciation learning. The studies reported earlier support this proposal by documenting the use of L2 accents in estimating ethnic group affiliation. The more learners sound like the speakers of their target language, the less they are perceived by their peers to be loyal to their home group. This finding was robust, cutting across ethnic groups and sociopolitical contexts. The studies also revealed behavioural consequences of the association between ethnic group affiliation and L2 accent. Learners would sometimes pick as leaders or coworkers those who sounded more like the speakers of their target language over those who did not, but the choice was sometimes affected by learners' own feelings of affiliation.

What is interesting about these findings is that learners' behavioural intentions did not necessarily match their beliefs. Both the Chinese and the Francophone learners of English indicated that speakers with higher levels of L2 pronunciation accuracy were less loyal to their home group. Nevertheless, when probed about their behaviour, some (the nonnationalistic Francophone learners in Study 1 and the Chinese learners in Study 2) chose these same speakers in contexts where loyalty was an issue. This finding suggests that L2 learning entails choices, in this case, perhaps between the reward of being efficient in the L2 (indicating the need for language ability best suited for communicative success) and the cost of not marking the right identity (implying a risk of being labelled disloyal).

Ethnic Group Affiliation and L2 Pronunciation Accuracy

Given the role of L2 accent in characterizing learners' ethnic group affiliation, the question that arises is how the association between accent and affiliation might affect the acquisition of L2 pronunciation accuracy. To answer this question, the role of ethnic group affiliation should be discussed in the context of language socialization and the demands imposed on learners by social groups in contact.

People are typically socialized into membership in at least one social

group—usually their ethnic group—for which they develop loyalties. If they maintain contact with only this group, they are seldom, if ever, faced with questions about group affiliation. As a result, the identities they negotiate in their day-to-day interactions are limited to those of a more personal nature (identities as men or women, employers, employees, wives, husbands, parents, etc.). If, however, they learn an L2, they automatically come into contact with another group in which they have potential membership. Faced with two groups, learners inevitably have to negotiate their identities, creating a new one with the new group or reaffirming their existing identity with the home group. These negotiations may be straightforward. When required to express an affiliation with the target group, learners use the target language, and when negotiating their identity with their own group, they use their home language.

However, the inner workings of social groups in contact are typically not this clear cut. Ethnic groups tend to be ethnocentric, seeing themselves as more important or superior to others, their existence to be defended and guarded at all cost. From this vantage point, home groups may see their members learning another language and gaining entry into another group as a threat to their existence. As a result, the home group may be very negative toward their own members learning the other group's language. Depending on the intensity of the threat, pressures imposed on learners can range from mildly suspecting learners' loyalty, to labelling them as people who "sold out" (Taylor, 1977), to actually trying to block their L2 learning. The target language group, too, can have attitudes and perceptions that affect its members' behaviour toward the learners. If they support the learners' entry into their group, they may provide them with opportunities to grow and prosper. Alternatively, the target group may disapprove of the learners' entry and attempt to hinder their progress. Caught between the tug and pull of their two reference groups, the learners' best option is to examine the costs and rewards of choosing to ally with one or the other group (Frassure-Smith et al., 1975).

These costs and rewards have consequences for language learning, in particular for learning pronunciation. First, learners may see and value the rewards of L2 learning (e.g., gaining access to resources only the target group can provide) and strive to attain the highest possible level of L2 mastery (e.g., native or near-native L2 pronunciation accuracy). Second, and opposite to the first, learners may aim for a lower level of L2 pronunciation accuracy (e.g., by maintaining an accent to continue to sound like members of their home group), recognizing the need to maintain identification with the home group and being aware of the social costs of not doing so. The curtailing need not be done intentionally. Learners may simply feel it futile to aim for higher levels of accuracy

because the only reward for doing so is aspersions on their group loyalty. Consequently, they lose all incentive to strive harder and eventually give up, failing to attain the levels expected of them.

The third possibility represents an intermediate position. Learners see that the rewards and costs of L2 learning can balance out. They strive for the highest level attainable but nevertheless retain ways of manipulating their pronunciation to clearly signal where their loyalties lie. In fact, they need not manipulate pronunciation across the whole language but simply selected aspects that serve as markers—for example, deleting final consonants in words like *reading* or *floor* to indicate social class (Fischer, 1958) or centralising vowel sounds to mark identity (Labov, 1972).

These three possibilities (among others) result from learners' recognition of their peers' negative judgments about their loyalty, judgments they have been socialized to expect. It is in this sense that ethnic group affiliation as a GEF may shape the direction and ultimate level of L2 pronunciation accuracy that learners attain.

Pedagogical Implication

The most important pedagogical implication of our findings concerns the need for teachers to become aware of the possible role of GEFs in the acquisition of L2 pronunciation accuracy. First, teachers should not readily interpret some learners' inability to achieve certain levels of L2 pronunciation accuracy as reflecting a lack of ability or interest. The possibility exists that heavily accented L2 pronunciation may represent a learner's way of coping with social pressures from their home communities. Second, teachers should recognize the fact that these pressures can also exist in the classroom. Some learners' efforts to sound like the target-language speakers may be looked down on by their peers, resulting in tension in the classroom that, in turn, affects the dynamics of important classroom activities such as group work and peer feedback (Morris & Tarone, 2003). Knowing that ethnic group affiliation could affect these dynamics, teachers should create an atmosphere where its positive effects could be enhanced and negative aspects diminished. Finally, although the goal of teaching is to assist learners in attaining the highest level of pronunciation accuracy possible, the drive to do so should not give the message that accented speech is inferior; tolerance toward such speech should be practised in the classroom (Derwing, Rossiter, & Munro, 2002).

FURTHER INVESTIGATIONS OF ETHNIC GROUP AFFILIATION

The studies reported in this article have documented an association between ethnic group affiliation and L2 accent. Its impact on the actual levels of L2 pronunciation accuracy that learners attain needs further investigation. In future investigations, the following questions could be asked. First, are those who make accent-based judgments of people's loyalties themselves perceived to have a high level of ethnic group affiliation and low level of L2 pronunciation accuracy? Second, are those who have attained high levels of L2 pronunciation accuracy aware of their peers' judgments about their group affiliation and has this awareness influenced their pronunciation learning? Finally, do judgments of ethnic group affiliation based on accent have any effect on the overall levels of pronunciation accuracy attained or only on specific features of speech, such as the pronunciation of individual sounds?

Recent studies on identity (Cerullo, 1997), including gender, race, and ethnicity, suggest that people construct and display multiple identities. The underlying assumption in these studies is that identities are not fixed entities but that they are negotiable, with language being manipulated to express the identities that reap the best social rewards from moment to moment (Pavlenko & Blackledge, 2004). It would be interesting to study how learners behave when faced with the choice between rewards for being an efficient communicator versus the comfort that comes from being loyal. What happens when these two conflict? Which options do learners choose? In the studies reported in this article, some of the learners faced with these alternatives took a position contrary to their beliefs. That is, although they believed that nonaccented speakers were less loyal, they nevertheless chose them for leaders or members. However, compromise positions are possible. For example, moderately accented speakers could be chosen because they could meet both efficiency and identity requirements. Finding answers to this question may require manipulating the interaction between efficiency and identity experimentally by creating situations where compromise is not possible. Finally, the relative importance of ethnic group affiliation as a factor influencing L2 pronunciation learning should be evaluated against other social factors such as aptitude, attitudes, motivation, threat to identity, culturally held beliefs and myths, and ethnolinguistic vitality.

Other factors, which are the focus of much current research on identities, are those that arise from the uneven value of language as currency in the linguistic marketplace. Influenced by poststructuralist thinkers (e.g., Bourdieu, 1991), language scholars have recently begun to view language in these economic terms, suggesting, for example, that

"those who are not speakers of the official languages or standard variety are subject to symbolic domination" (Pavlenko & Blackledge, 2004, p. 15). For these underprivileged speakers, learning the language of power in their community may be their only means of escaping domination. But what happens in situations when these speakers' sense of ethnic group affiliation comes head to head against the need to learn the language? What adjustment do they make to their L2 pronunciation to accommodate their need for ethnic group affiliation? Can they separate their desire for ethnic group affiliation from their desire to overcome linguistic handicap in these contexts? With globalization, increasing numbers of groups of people are placed in minority situations as they move around the planet in search of economic, educational, and political opportunities. Studying the interplay of social forces in these people acquiring the languages imposed on them by perceived gains would contribute to a better understanding of how to teach such languages effectively while helping people adjust to their new worlds.

CONCLUSION

The role of ethnic group affiliation and its influence on L2 pronunciation learning can be conceptualized within a broader framework of L2 development. In this framework, based on sociocultural approaches to L2 acquisition (Pavlenko & Lantolf, 2000), language learning is viewed not just as a matter of accumulating knowledge of discrete language elements but as a process in which learners participate in a community of users. Our findings underscore the role of social variables, especially those emanating from learners' own reference groups, in the construction of the language needed to make this participation possible.

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Becoming "Black Lambs" Not "Parrots": A Poststructuralist Orientation to Intelligibility and Identity

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How do international speakers of English assert their identities as legitimate teachers of English given the privileged position of the native speaker? To answer this question, we present case studies of two students from Taiwan in their first year of study in a 2-year master of arts in TESOL (MATESOL) program. The data included interviews after the course and reaction papers written in a pronunciation pedagogy course in response to readings that challenged the native speaker myth. Using a poststructuralist concept of identity to frame the data, we found that these preservice teachers, not surprisingly, had multiple and conflicting identities as legitimate speakers and teachers of English. Though deeply influenced by the native speaker myth and educational practices that equate Whiteness with native speakers, these teachers were able to appropriate and imagine new identities as legitimate speakers and teachers of English through the linguistic resources provided by the course readings. These teachers also recognized that they had other means, besides native-like pronunciation, to establish their legitimacy. We argue that the value of teacher education lies in its ability to offer alternative discourses, for example *multicompetence* (Cook, 1992), to enable preservice teachers to imagine alternative identities. In imagining these identities, teacher learners can also develop alternative instructional practice, practice that may be contrary to the norms of the educational institutions in which they work.

In the last decade, pronunciation pedagogy has made strides toward creating a more realistic definition of *intelligibility*—one that reflects the belief that sounding like a *native speaker*[1] is neither possible nor

[1] We recognize that the terms *native speaker* and *nonnative speaker* are highly inaccurate and contested terms (see Rampton, 1990). However, we choose to use them in this article to highlight the unequal power relations that exist in usage.

desirable. Indeed, researchers and nonnative professionals in the TESOL caucus have challenged the native-nonnative speaker dichotomy and the unprecedented authority given to monolingual native speakers of English; for example Rampton's (1990) notions of *language expertise, language inheritance,* and *language affiliation;* Cook's (1992, 1999) multicompetence; and Lin, Wang, Akamatsu, and Riazi's (2002) *teaching English for glocalized communication* all offer new conceptualizations for English as additional language speakers. These new ideas suggest a growing acceptance of foreign-accented speech and the legitimacy of nonnative speakers of English as teachers of English.

Many in the profession, however, still appear to view intelligibility[2] as the primary—and often the sole—means by which an L2 speaker is able to establish her legitimacy as a speaker and teacher of English. Indeed, a number of disturbing instances suggest that being intelligible may not matter in the face of other factors. Classified ads for English teachers highlight "native speakers preferred" or "native English speakers only" (Choi, 2001; Lin et al., 2002). Kandiah (1997) notes that one ad seeking a native-English-speaking teacher changed its text to ensure that only Caucasian applicants applied. In the 2004 special issue of *TESOL Quarterly* on gender, a Filipina and a Black South African woman, speakers of English from noncenter countries, describe the racial stereotyping and discrimination that they encountered in Japan, noting the preference for English speakers from center countries (Simon-Maeda, 2004). This focus on native speaker superiority and on Whiteness in particular suggests that intelligibility may be overridden by factors such as accent and race.

In light of these contradictory realities, how then do nonnative-English-speaking teachers assert their right to teach English as a second or foreign language (ESL/EFL) or, more specifically, English pronunciation? This study considered this question by examining social identity and accent together and by examining the specific avenues by which an L2 speaker of English can assert her legitimacy as a speaker and teacher of English. We first survey the advances made by pronunciation research and new conceptions of communicative pronunciation teaching and highlight important challenges that must be confronted. We then detail a poststructuralist concept of identity as a way to situate these challenges. By examining the narratives of two students in a teaching English as a second language (TESL) program to uncover the various ways that

[2] We realize that pronunciation scholars make a distinction between the terms *intelligibility* and *accent* and that these distinctions may appear blurred in this article. We have chosen to do this because we believe that the majority of nonscholars (who represent the portion of the population with whom these participants interact), perceive these terms as being interchangeable. At the very least, it seems reasonable to suggest that what pronunciation experts might call intelligible but accented speech might very well be deemed unintelligible by laypersons.

preservice teachers (PSTs) establish legitimacy, we contest the idea that intelligibility is the primary means by which PSTs establish and maintain this legitimacy.

PRONUNCIATION RESEARCH AND INSTRUCTION

Renewed interest in research on pronunciation issues and pronunciation teaching over the last 25 years has expanded our understanding of intelligibility and learner agency. Studies concerning the interrelationship among comprehensibility, accent, fluency, and prosody have been complimented by a focus on how trained and untrained judges perceive an L2 speaker's comprehensibility in terms of these factors (Derwing & Munro, 1997; Derwing & Rossiter, 2003; Derwing, Rossiter, Munro & Thomson, 2004; Munro & Derwing, 1999; Wennerstrom, 2000). New conceptual approaches to teaching include an integration of pronunciation with speaking and listening in communicative activities, integration of phonemes with rhythm and stress, increased interest in the effect suprasegmentals have on intelligibility, and student use of discourse analysis to examine authentic speech (Chun, 2002; Gilbert, 1993; Grant, 2001 Morley, 1991; Murphy, 1991). Students play a central role as they work with the teacher to prioritize their goals, for example, along a "pronunciation proficiency continuum" (Grant, 2001, p. 7). They are recognized as capable, autonomous learners who can use prediction skills and monitor their own speech.

Textbooks used as resources for graduate students in MATESOL courses have integrated many of these advances and advocate a more communication-focused approach. Yet, researchers such as McCarthy (1991) and Levis (1999) have critiqued the validity of presentations on suprasegmental features. For example, McCarthy (1991), using discourse analytic techniques, rejects many common assumptions about English, such as the long-accepted notion that English is stress timed. Such analyses suggest that in an effort to codify language, textbooks describe norms that may be easy to present to a class (e.g., the numerous patterns for intonation) but are not characteristic of what individuals do in real communication.

Textbooks for teachers of ESL have also recognized the effects of sociocultural factors, in addition to biology, personality, and first language background, on speakers' abilities to change their pronunciation. For example, Avery & Ehrlich (1992) stress the importance of research suggesting that the more a speaker identifies with a group, the more she may want to sound like a member of that group, but that she may also maintain her L2 accent if she wants to assert her own cultural identity. Pennington's terminology to characterize barriers to pronunciation

improvement (as cited in Celce-Murcia, Brinton, & Goodwin, 1996) has been suggested as a useful guide for teachers: "physiological ('I can't change'), psychological ('I don't need to change'), and sociocultural ('I don't think it's good to change')" (p. 26). These textbooks' emphases on the speaker's right to change as an individual, though promoting student agency, fail to recognize that although a nonnative speaker might construct an identity as a competent speaker of English through a variety of channels (including, but certainly not limited to, intelligibility), the native speaker may still position her as "an inferior copy of the 'master's voice'" (Lin et al., 2002, p. 306). The idea that a speaker's choice to change her accent to conform to native speaker norms of intelligibility will legitimize her as a speaker and teacher of English is overly simplistic. Indeed, we believe that this offers students a version of the American myth of Horatio Alger: "If I just work hard enough to change my accent, I will be accepted."

INTERSECTION OF ACCENT AND RACE

Lippi-Green's (1997) pioneering work on standard language ideology and accent illustrates the way this inequality affects communicative interactions. She defines ideology as "the promotion of the needs and interests of a dominant group or class at the expense of marginalized groups, by means of disinformation and misrepresentation of those non-dominant groups" (p. 64). When speakers are both from the dominant language group (DLG), they share the communicative responsibility within that interaction. However, when a DLG member meets an individual with a non-DLG accent, the DLG member may reject her share of the "communicative burden" (p. 70). Often this rejection comes about because the L2 speaker's accent indexes a particular identity (racial, national, socioeconomic, religious, sexual) for this interlocutor who then evaluates her on the basis of this identity and any stereotypes it calls up.

A number of studies (Bresnahan, Ohashi, Nebashi, Liu, & Shearman, 2002; Cargile & Giles, 1997; Lindemann, 2002) have explored the largely negative affective reactions that a speaker's foreign accent might trigger in an interlocutor. Findings indicate that race, in particular, is an important factor when an interlocutor is assessing a non-DLG speaker's accent. Rubin's (1992) work suggests that language-ideology filters predispose individuals, when they meet a person of another race, to "hear" an accent that may not exist and to evaluate that speaker as less competent. Amin (1997) found that ESL students perceived Canadian and native speaker identities as being analogous to Whiteness. Links between Whiteness and "native speakerness" have been drawn in job ads

for institutions that prefer Caucasians or even suggest that the terms *native speaker* and *non-Caucasian* are mutually exclusive (Choi, 2001; Kandiah, 1997). Teachers themselves have been shown to be intolerant of accented speech (Koster & Koet, 1993; Mawhinney & Xu, 1997). We as ESL teachers often experience our own contradictions—as teachers, we do not expect our students to have native-like pronunciation, but as foreign language students, we may seek out native-speaker models. Accent—or rather the beliefs and attitudes about accent—works as a gatekeeper and becomes a powerful metaphor in *symbolic domination* (Bourdieu, 1991) as both the dominant and the subordinated group "misrecognize" the prestige of so-called unaccented native-speaker speech (Taylor, 1994, p. 25).

What enables a person to contest her positioning is a critical question for language teacher educators. For some students, assuming the racial identity ascribed to them through a burlesque South Asian English accent was a way to talk back to their Anglo teachers (Rampton, 1996). Morgan's (1997, 2003) innovative linking of poststructural concepts of identity with L2 pronunciation instruction provides a model for teachers as well as teacher educators. Jenkins's (2002) work is especially valuable. She proposes a more flexible set of foci and expectations that consider students' communicative needs: "core" sounds that should approximate native speaker norms as much as possible and "areas open to variation" (pp. 121–124). Teacher education programs are potential sites for fostering resistance to native speaker norms because they can expose PSTs to validating discourses with which they can construct new identities through narratives, such as multicompetent, bi/lingual, and multilingual (Pavlenko, 2003).

THEORETICAL FRAMEWORK

This study adopts Ochs's (1993) definition of *identity:* "a cover term for a range of social personae, including social statuses, roles, positions, relationships, and institutional and other relevant community identities one may attempt to claim or assign in the course of social life" (p. 288). Because an individual's social identity must be jointly constructed by others interacting with the individual, social identity must be "ratified" by interlocutors (p. 290). For an individual to construct the identity she desires for herself and have it ratified, she needs to choose the structures and linguistic practices that her community deems consistent with that identity.

The theoretical framework used in our examination of identity is largely grounded in Norton's work, which has deepened the concept of identity as a "site of struggle," embedded within power relations, as

"multiple and contradictory" (Norton, 2000, p. 127), and as changing over time and space (Peirce, 1995). Yet, she also notes that the power that individuals are given in certain situations is not absolute because lower status individuals can choose to resist being positioned negatively and can develop a counter discourse with which to assert a more powerful subject position. To do this, she recommends that we foster students' "awareness of the right to speak" (1995, p. 18).

Developing this awareness through classroom activity provides a way for nonnative-English-speaking teachers to affirm their legitimacy. Norton (2001) situates this awareness within a social dynamic through the concepts of *imagined communities* and *imagined identities*. Imagination is central in a "creative process of producing new images of possibility and new ways of understanding one's relation to the world that transcend more immediate acts of engagement" (pp. 163–164). Narratives provide a crucial tool in imagining new identities and new instructional practices (Johnson & Golombek, 2002; Pavlenko, 2003; Pavlenko & Blackledge, 2004; Simon-Maeda, 2004).

METHODOLOGY

The question this study addressed was how does an MATESOL course about pronunciation pedagogy that adopts a critical approach to language teaching shape students' identities as legitimate speakers and pronunciation teachers of English?

The participants in this study had all attended a pronunciation pedagogy course, lasting 15 weeks, called "Teaching American English Pronunciation." Paula taught this course and used Celce-Murcia et al. (1996) as the main text. In addition, students were encouraged to write reaction papers on readings by Cook (1999), Levis (1999), and Lippi-Green (1997), and on a film called *American Tongues* (Center for New American Media, 1987). In their papers, the students reflected on what accent means, what prejudices they had toward accents, and how accent influences people's sociocultural and socioeconomic histories. The reaction papers were not graded because they were meant to encourage students' honest self-reflection without fear of being punished for their views.

Eighteen students attended the course. Early in the semester, Stefanie, in Paula's absence, explained the study and asked for volunteers. Participants names were kept confidential until Paula had completed her grading. In this way, the university assures that students' grades do not depend on students' participation in a study. Although five students volunteered, we had complete information for only two of them. Shaomei and Lydia are their pseudonyms.

After the course, we interviewed each participant (see Appendix). These interviews, which lasted about one hour each, were audiotaped and later transcribed. The primary sources of data, then, were the texts of the PST's reaction papers and the transcribed interviews.

The interviews and written texts were analyzed using the constant comparative method (Glaser & Strauss, 1967), in which categories were coded and then compared across similar incidents in the same category. The spoken and written data for this study were analyzed to uncover the tacit ideologies at work in participants' talk. In our analysis, we paid particular attention to the words and terms our participants employed because, as Fairclough (1989) points out, words are a powerful tool for characterizing, sanitizing, or intensifying a categorization or an interaction. We present the individual cases and a cross case analysis of two of the PSTs.

Case 1. Shao-mei

Shao-mei is a 29-year-old MATESOL student from Taiwan. In her schooling in Taiwan, she studied both English and German but focused on English. Shao-mei describes her English language education as typical of Taiwan: She was groomed for tests and, until she attended university, she rarely had courses emphasizing oral communication. Her exposure to aspects of pronunciation consisted of an initial phonetics course in the ninth grade, when English language instruction began, a cram-school course on pronunciation, and a phonetics course in university that covered the vowel and consonant sounds of English.

Despite Shao-mei's extensive education in English, her sense of herself[3] as a legitimate speaker of English was, ultimately, contradictory. She explained that many L2 speakers she knows "don't think their English is good enough." She described this lack of confidence in detail in a reaction paper:

> When I talk with my classmates or friends graduating from English department, we feel strongly that our English is never sufficient. There are always new vocabularies, idioms and slang. . . . Thus, some of us feel unconfident of ourselves and dare not to tell others that we were once English majors because we are incompetent to speak English fluently.

For Shao-mei, this sense of speaking English that is inadequate appears to be rooted in the idea that L2 speakers of a language must use the

[3] In this article, one's sense or view of oneself is considered synonymous with one's perception of her or his identity.

native speaker as a yardstick for intelligibility; if one knows "new vocabularies, idioms and slang" that native speakers use and understand, one may feel confident about one's English abilities because one must depend on a native speaker's ratification to consider herself proficient. But because this L2 speaker of English is comparing herself with a native speaker, who she assumes will perceive an L2 speaker's command of English to be subpar, the gap between what she believes an L2 speaker knows and what an L1 speaker knows appears unbridgeable. She explains that L2 users "never" feel "sufficient," and her choice of these words is telling: "Never" leaves no room for competence later, and "sufficient" suggests that the most an L2 speaker can hope for is to be minimally competent. Further, these two words suggest that even if an L2 speaker feels confident in her language abilities, native speakers can—and may—still refuse to ratify her as a legitimate speaker.

Shao-mei's ideology of native speaker superiority appears to be bolstered by a pronunciation pedagogy that posits L2 speaker intelligibility as its goal. She explained that "ESL learners . . . should try to decrease their accent to make communication more successful," which again suggests that she has taken on the nonnative speaker's burden by accepting responsibility for achieving a certain native-speaker-defined intelligibility. In an oral interview, she demonstrated that she applies this same standard to herself and her own ability to use English:

> Somehow, I still didn't, didn't ah, I still, you see, I use didn't , I still (.) don't think that my English that good. (.5) or probably (1.8) yeah . . . because sometimes I still have some (.) trouble to communicate with native speakers.

Again, Shao-mei appeared to be judging her own progress in English using intelligibility with native speakers as the yardstick: Her assessment of her language abilities as "not that good" is predicated solely on miscommunications with native speakers and her belief that they will judge her to be an incompetent speaker of English. Her view of language emphasizes intelligibility as the primary—even sole—means of establishing her legitimacy, so any deviation from native-speaker-defined intelligibility is potentially damaging to her identity as an English speaker and teacher.

However, the data also revealed that Shao-mei does not fully accept the myth of native speaker superiority. The readings in the pronunciation pedagogy course provided her with the language she used to contest this ideology and imagine a new identity for herself as a teacher. For instance, she found Cook's (1999) concept of the multicompetent speaker to be central in fostering her sense of resistance toward the native speaker ideology. The authority that her profession has invested in professional publications and in the new linguistic terms (such as

multicompetence) that arise out of published scholarship gave Shao-mei access to a novel way of imagining new identities for herself and her students beyond race and intelligibility; she found that other aspects of L2 speaker' identities can become sites upon which to establish legitimacy. In a reaction paper to Cook's piece, she explained that

> accent is a natural performance. ESL learners should not be ashamed of their accent. . . . ESL learners and users don't have to speak like Americans. . . . ESL learners should find their own English instead of becoming parrots.

Shao-mei's "parrot" metaphor here is powerful; it suggests that L2 speakers who strive for native-like pronunciation should be seen as simply mimicking speech and not producing talk that reflects their unique identities. Shao-mei saw value in Cook's concept of the multicompetent language user for ESL learners because it provides a reasonable goal for language learning:

> It will give me confidence as well as give, I will deliver that concept to my students (.) it will encourage them because, I-I I feel that many ah students in Taiwan they are quite frustrated in English learning . . . they will probably feel more interesting in English then, because they wouldn't feel so, they wouldn't um (.2) set a quite high standard for themselves, that it would be easier for them to get . . . and I think that would give them (.2) yeah, more confidence, make them feel better. They would, they would be, they were competent learners instead of disabled or . . .

This excerpt brings out the main aspects of Shao-mei's ambiguity about her own legitimacy as a speaker of English; on one hand, she sees how frustrating it is for students to "set a quite high standard" of native-like accent for themselves and that students work out this frustration in a lack of confidence and a view of themselves as "disabled." Further, she seemed willing to accept the word of authorities like Cook (1999) by agreeing that accents are natural and not shameful and even suggested that L2 English speakers "create new English with their own culture and background," which embraces an evolving view of English as heteroglossic. On the other hand, when asked if she herself feels like a legitimate speaker of English, she hedged and qualified, saying only "if face to face (.2) uh yeah," suggesting that location also shapes her identity as a legitimate speaker.

Similar ambiguity surrounded Shao-mei's discussion of herself as a legitimate teacher of English. She struggled with the expectations that students have in terms of their teachers' identities; in a reaction paper, she claimed that in Taiwan

> Parents prefer to send their kids to the so called 'American teachers' to learn English because these Americans speak 'standard English.' Actually, some of these 'Americans' L1 is either British English, Spanish, or French. They are considered as Americans because they are white. . . . In Taiwan, from small kids to the official in the ministry want only pure American English.

This excerpt demonstrates Shao-mei's acute awareness that many parents, administrators, and students equate native speaker status with Whiteness and that these double filters of racism and native speaker superiority make it even more difficult for a non-White L2 speaker of English to gain credibility as a teacher of English. Assuming that native speaker status and Whiteness go hand-in-hand is not a phenomenon limited to Taiwanese students, parents, and administrators. During an interview, Shao-mei claimed other international students who come to the United States to study English also "prefer a native speaker" (assumed to be White) to be their teacher.

Yet when asked if she considered herself a legitimate ESL teacher, she replied, "In Taiwan? . . . comparing with others, I think I'm better." She explained her assessment by noting that she has benefited from "my exposure here. And my idea[s], learning, from here. And my travel experience." At first, Shao-mei's confidence seems to contradict her statements about the status given to native speakers in Taiwan, but looking closely at her comments reveals more. It is precisely because of the value Taiwanese culture assigns to her exposure to "native" U.S. culture, American learning styles and pedagogy and her ability to travel in the United States (which for her has involved a great deal of interaction with native speakers) that Shao-mei is able to justify her assumption of her high status: She may not be a native speaker, but she is, in her students' and bosses' eyes, the next best thing because she has been consistently exposed to L1 American English speakers for 2 years. Again, she discovered that legitimacy, which may be denied to her via avenues of intelligibility or race, may be gained through various other avenues.

The practices that Shao-mei espouses were also riddled with contradictions. She explained in an interview that as a teacher, she would take the stance that "nonnatives are responsible for being intelligible":

> if I ask students to answer question and their pronunciation isn't very good if that's intonation, I probably wouldn't correct them . . . but if, if it's mispronunciation? I would probably, but it depends . . . but it, it's really, very, I mean the mispronunciation's really very [bad], it's probably hard to understand.

Although it is certainly interesting that Shao-mei would focus more on individual phonemes than on segmental differences such as intonation,

the upshot of this excerpt is that, ultimately, it is the L2 speaker's responsibility to be intelligible.

However, it is clear that Shao-mei also saw a role that more critical approaches, like Cook's (1992, 1999) notion of multicompetence, could play in the classroom. She explained in an interview:

> I would, I would, I would tell them [students] that they are multi-competent. I mean, if they learn a language, they don't, they could try to express themselves and they don't have to care about the accent that much, they don't have to care their grammar that much.

In this excerpt, Shao-mei explained that there is a place for accent in her classroom and that she would prefer her instructional focus to be on helping students "express themselves" instead of being consumed with attention to phonetic and grammatical accuracy. Even this bold pedagogical move, however, was accompanied by a caveat. In the following excerpt, Shao-mei explained that these new practices must make space for the top-down realities that standardized tests impose on students:

> That would be separate from the test. I mean, they say that the two couldn't combine together. I would try to, if they have to prepare for this [test], and prepare for this [speaking]—that's different.

Shao-mei's keen perception that students' lives, like teachers' lives, are filled with contradictory goals and motives allowed her to situate her resistance to the myth of native speaker superiority realistically. The concepts she was introduced to in her pronunciation pedagogy class have provided her with an authoritative voice to use in resisting the dominant language ideology and enabled her to imagine an identity for herself as a teacher of English, but she is aware that both this resistance and this imagined identity must take students' needs into account if it is to be taken seriously or regarded as legitimate. In other words, Shao-mei knows that simply rejecting the myth of native speaker superiority or the importance of intelligibility will not likely provide her with the legitimacy she seeks—but what she has discovered is that intelligibility alone is no guarantee of legitimacy and that she may need to establish her credibility via other means.

Case 2. Lydia

Lydia is a 26-year old woman from Taiwan who came to the United States to get her MATESOL degree and now hopes to stay and pursue doctoral study in applied linguistics. She came with a strong background in English language teaching and learning; she majored in English and

Spanish language and literature in university and then taught for 4 years in Taiwan in cram schools, junior high school, and high school. Her varied experiences with language teaching led her to adopt what she felt most Taiwanese teachers would consider somewhat unorthodox views, and the negative reaction these new ideas engendered served to erode her confidence: "There's a short period, I'd I wondered if I'm, if I was wrong when I was teaching there." When she began taking courses in the MATESOL program, however, she felt that many of her concerns and beliefs were validated by the more critical approach the program fostered. For instance, much of what the pronunciation pedagogy course offered her was validation for beliefs she had held as a teacher in Taiwan that contrasted sharply with other teachers there.

> I always felt very, I always felt I'm the black lamb . . . in my school when I was teaching . . . but there's a short period, I'd I wondered if I'm, if I was wrong when I was teaching there. But yeah, when I came here and I found—it's just, just strengthen my belief, I think what I, what I thought is right but nobody feels that.

These comments suggest that Lydia had an investment in the MATESOL program that went far beyond material concerns such as employability and earning potential; Lydia used the program—and the pronunciation pedagogy class in particular—to explore and validate her own deeply held beliefs about language teaching and learning as well as her identity as a self-proclaimed "black lamb."

Lydia appeared to have a great deal of confidence in her abilities as an English speaker but noted that her attention to her pronunciation grew out of a fear of feeling inferior when speaking to native speakers and a fear that they would perceive her English as less than adequate:

> I don't want to be thought as (.2) stupid or clumsy because of the way I pronounce English . . . I always, I always think of myself as very smart, but I sometimes I feel frustrated because I look stupid here, just because I can't speak (.2) fluently or (.2) or speak with those, (.) mm preferred (.2) pronunciation . . . sometimes people are just impatient.

Lydia's words suggest that she has a strong sense of how much the myth of native speaker superiority will affect others' judgments of her language skills and in particular the way it might enhance L1 speakers' own sense of linguistic dominance to the detriment of L2 speakers; she used the word "stupid" twice to reiterate her perception of native speakers' disdain for L2-accented speech: Some people's dislike of accent is powerful enough, she suggests, to make them consider a smart person to be unintelligent. Moreover, this passage highlights the emphasis placed on intelligibility as a means of establishing legitimacy. Lydia's words here

echo Lippi-Green's (1997) claims that accents are used as a means of assigning negative characteristics to certain speakers, and that native speakers' impatience signals a rejection of the communicative burden. However, the pronunciation pedagogy class did ratify Lydia's views, and she commented after reading the Lippi-Green (1997) chapter that

> I appreciate so much that some researchers point out this biased and inappropriate attitude which has been taken for granted for such a long time. In order to invalidate this myth, we do need their articulation to arouse the public awareness since people tend to prefer expertise to the protest of nobodies.

Although Lydia did not appear to require scholarly authorities to ratify her position on accent discrimination for her own sake, she was aware that others—school administrators, students, and students' parents—would take her claims more seriously if those with "expertise" weighed in on the issue.

What is interesting is that in later conversations, Lydia took a critical approach even to her own stance; she recognized that perhaps people are reacting not just to a person's accent but also to his or her race; she noted that she has had some negative experiences with native speakers in the United States but claimed she could not tell if people had mistreated her because of her accent or the way she looked, which she sees as "intertwined." But she knows Taiwanese friends who speak less fluently than she and "sometimes they didn't get the, uh, the same services as others." It's clear that although Lydia may confidently consider herself to be a legitimate speaker of English, she recognized that others, relying on characteristics often unrelated to intelligibility altogether—may not ratify the view she has of herself for reasons beyond her control.

Lydia's view of herself as a teacher of English is complex and complicated; on the one hand, she recognized the pressures from school administrators, other teachers, and parents that only serve to reify the myth of native speaker superiority. She claimed that in many teaching situations in Taiwan, one may easily obtain a job "as long as you speak English and you look, you look like a foreigner." She then said that employers put a premium on those who "look white" because "they want the image like those Americans in the movies." Again, Lydia recognized that often native speakership and race are inseparable for some people and that the compounded effect of these two attributes can negatively affect L2 teachers.

Lydia contested this assumption of native-speaker superiority. For instance, she recalled her own experience working with native-English-speaking teachers in Taiwan and noted that it was "a miserable experience":

> I think the quality of the native teachers, native speakers, English native speakers as teachers in Taiwan (.2) they are not, most of them are not good at teaching . . . they might be good at English, but they're not good at teaching.

Lydia's insistence in this passage that an individual must be competent pedagogically in addition to knowing the language enabled her to question the legitimacy that she believes is often automatically—but wrongly—accorded to native speakers because of their race and accent.

Despite the clear preference for native speaker teachers in Taiwan, Lydia claimed that she feels more qualified as a teacher of pronunciation in Taiwan than in the United States because she can understand the difficulties that Chinese speakers might have. Although she knows of another L2 speaker teaching a conversation class for ESL students who "feel[s] that her students are kind of (.2) disappointed when they know that she's not a native," Lydia appears to believe that "after a period of time you [L2 teachers] can build up your (.2) credibility." This assertion that credibility is sometimes a matter of patience is one of the ways Lydia imagines an identity for herself as a legitimate(d) L2 teacher. Credibility is something she would have to negotiate in each interaction with her students over time rather than in a single iteration.

She further resisted the dominance of the native speaker model by interrogating the extent to which critical approaches like Cook's (1999) notion of multicompetence ignore the realities of the "deficiency" perspective compelled on L2 speakers:

> When we are situated in a larger L2 sociocultural community, it helps little if we ourselves are the only people who regard us as multicompetent speakers, with the majority of community members viewing us as deficient and failed in this language.

This excerpt suggests that Lydia is fully aware that this confidence-inspiring label of "multicompetent" will only empower L2 speakers if it is also taken up and ratified by native speakers. What's interesting about this interplay is not simply the fact that Lydia was taking a critical approach to critical texts, but that she felt able to engage with the text and argue with it rather than simply reject or accept out of hand the insights it offers. She even came to imagine a world where she herself might become one of the voices of authority who takes up a critical stance: "As a teacher, I hope that I can more or less play such a role of 'language expert' and make some contribution to the eradication of this non-accent myth." Being seen as an expert, then, becomes another avenue for establishing legitimacy.

Lydia's interactions with the critical approaches offered in the pronunciation pedagogy course and the new directions they might take her in teaching enabled her to imagine herself as an agent for change in the

language classroom. For instance, she offered a number of ideas that she wishes to employ in her classroom that differ radically from accepted or acceptable practices in Taiwan:

> I would not 'correct' my students' accent as long as their utterances are comprehensible, nor would I forbid their speaking their (our) own language in class; I might even borrow some L1 knowledge as one of the resources of my instruction, such as contrasting some similar sounds in L1 and L2, or extending L1 pronunciation rules to L2 pronunciation rules.

Although in this excerpt Lydia maintained something of the dominant intelligibility model by insisting on students' comprehensibility, she did employ some strategies that would contrast sharply with the views of many Taiwanese teachers' practices, such as the use of L1, which would be a fairly risky practice in a country where, she claims, "there are so many private English schools concentrating on offering 'no Chinese' environment."

However, Lydia also recognized that the success of this imagined identity as an English teacher and advocate for change is subject to her students' needs and comfort levels. She explained, for instance, that teachers must be responsive to students' needs and not just to their own pedagogical goals:

> It depends on what the students need. If they only need to get good grades and pass the entrance exam, then NO, you should learn more grammar. But if they really (.2) want to or they might have the chance to (.2) communicate with (.2) people in the real world speaking English, then it's important at least they have to understand what others are talking.

Lydia appeared to accept that students may have different goals for their learning and that these goals may not coincide with her own objectives. She realized that the top-down effects of standardized tests cannot be ignored if her students are to accept her as a legitimate teacher.

CROSS-CASE ANALYSIS

In this cross-case analysis, we want to recognize the unique identities of these PSTs, as well as some underlying similarities. The main finding of this study was not surprising: By and large, Shao-mei's and Lydia's identities as legitimate English language speakers and teachers were fraught with ambivalence and contradictions. The dominance of standard language ideology, in which nonnative users of a language are seen as deficient, has not been eradicated by the more "realistic" goals of communicative pronunciation teaching. Because of the almost exclusive

focus on intelligibility in much of their early English language teaching education and teaching experience, these PSTs still apparently view miscommunications with native speakers as their fault or responsibility and see certain differences in pronunciation as errors to be expunged from their speech or corrected in their students.

Although much of their education and experience has focused solely on developing intelligibility as the key to establishing credibility as an English speaker and teacher, these two students appear to entertain other means (knowledge of students' L1, personal experience, expertise with the language, access to expert opinions) by which they might establish their claims to legitimacy. They found, for instance, that factors like race could override intelligibility, and both mentioned the role that race played in perpetuating the myth of native speaker superiority. Both Shao-mei and Lydia noted that Whiteness, and in some cases, even "blond[ness]," was often viewed in their L1 communities as inseparable from native speaker status; this insistence on Whiteness, in many cases, caused authorities to show hiring preferences toward certain individuals despite their lack of expertise and experience as language teachers. This symbolic violence created contradictions for the PSTs in this study; although they felt they possessed the ability and skills to be good English teachers, institutions and individuals they encountered judged their expertise as secondary to biological factors such as race. Expertise is something these PSTs have the ability to change, and with this and the identity of *expert,* they may be able to confront the racial bias that exists in English language teaching.

The PSTs in this study also found a number of creative ways to resist the dominant native-speaker model and imagine themselves in roles as legitimate(d) teachers of English. First, their appropriation of linguistic constructs, constructs developed by authorities in the field gleaned from their pronunciation pedagogy course, proved to be a powerful resource in allowing them to imagine these new identities as speakers and teachers of English. The authority inherent in these terms served to ratify these imagined identities.

Both Shao-mei and Lydia imagined instructional practice they would use, practice that at times ran counter to institutional policy. Shao-mei's assertion that she would not focus on pronunciation and grammar accuracy but would encourage students to "express themselves" emphasizes what students say rather than the technical precision of what they say. Lydia views the students' L1 as a valid tool, one that can serve as a point of reference and as a means of communication in the classroom. Both Shao-mei's valuing of her students as communicators and Lydia's use of the students' L1 are concrete ways of conveying the concept of multicompetence, but these practices also contradict institutional norms.

Because each of these PSTs recognized the test-driven educational

systems of their home countries and respected student needs, these imagined identities will undoubtedly be contested. How those identities will develop and be negotiated is unknown. Nevertheless, they can encounter their realities with an ability to recognize the constraints imposed by the system, a counter ideology and discourse of multicompetence to challenge this system, and some practical instructional strategies to use in the classroom.

CONCLUSION

The results of this study offer new directions for pronunciation pedagogy in general and for teacher education programs specifically. First, the almost single-minded focus the profession has placed on developing intelligibility within speaking and pronunciation classrooms should be questioned. For L2 speakers, intelligibility is an illusion if it is simply operationalized as a set of skills located with an individual that can be easily manipulated or changed. Teacher educators need to highlight to PSTs that intelligibility is negotiated and contested along with identity in each interaction. Although they might choose to improve their pronunciation, they have a greater agency in developing other legitimizing characteristics they might bring to the context. Thus, we argue that a decentering of the primacy of intelligibility as a skill is necessary if PSTs are to make informed decisions about how best to establish their credibility as speakers and teachers of English.

Courses in teacher education programs in particular can encourage PSTs to develop strengths in other ways that can establish legitimacy, such as developing aspects of their teacher identities like their command of content knowledge, pedagogical content knowledge, knowledge of their students' needs, and knowledge of the institutional demands of the teaching context. By allowing PSTs to focus on the range of factors that contribute to their legitimacy, teacher educators offer them avenues for imagining identities for themselves that contest the racist stereotypes with which they may otherwise have to contend. Moreover, by acknowledging legitimacy as a construct that can be developed over time and through interaction with students, teacher educators can offer PSTs a greater sense of agency in constructing their teacher identities—agency which is denied them under more traditional approaches centered on intelligibility. In language courses, for instance, teacher educators and PSTs can use pronunciation instruction to explore factors that constrain or enlarge the linguistic resources available to them, similar to what Morgan (1997) has done, as well as identify and support other abilities.

Another role teacher education programs can play, as Pavlenko (2003) suggests, is to support the imagination of new teacher identities

through alternative discourses. This study further suggests that teacher education programs provide opportunities for PSTs to develop alternative instructional practices that are compatible with an imagined identity, especially because those practices may run counter to institutional norms. Although linguistic constructs like multicompetence, which have proved so useful in helping students imagine alternative identities, could be introduced in a variety of courses, we suggest that courses concentrating specifically on phonology will provide PSTs with more opportunities to integrate questions of identity, curricular objectives, and practice. Imagining alternative practice may help to nourish those imagined identities enabling PSTs to become black lambs as they explore their roles as teachers of English and even to challenge dominant beliefs about nonnative-English-speaking teachers.

Finally, if teacher education programs embrace constructs like multicompetence, critiques of current practices of assessment should follow as a matter of ethics. Although it is beyond the scope of this article, we believe our profession needs to discuss the contradictions produced by competing discourses of intelligibility and multicompetence. We recognize the complexities involved when institutions must assess individuals' communicative abilities, when, for example, evaluating the communicative competence of teaching assistants at a university. We recognize that such a process must be both streamlined and efficient and that often a single encounter must become the basis for evaluation. Yet if teacher educators adopt a discourse that privileges multicompetence, they must still recognize that legitimacy can be established through numerous resources and that in assessing language in this way, they may unwittingly reproduce the fiction of nonnative speaker deficiency. By embracing the possibilities that a discourse of multicompetence offers, particularly in terms of assessment, we English language teacher educators can also become black lambs as we critique accepted practices and imagine more equitable ones.

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APPENDIX

Questions for Initial Interview

How long have you studied English?

Have you ever taught ESL before coming to the MATESOL program?

Please describe any previous experience with English pronunciation and/or phonetics.

Describe your plans after you receive your MATESOL.

Describe your previous experiences living or traveling abroad.

Do you speak other languages? If so, which one(s)? How long have you studied these languages?

Describe the best ESL teacher you ever had.

How have your ideas about being a teacher of ESL changed since you first came to the MATESOL program here at Penn State? Why have they changed?

Do you believe you are a legitimate/credible/qualified teacher of ESL? Do you feel comfortable taking on this role? If so, why do you feel this way? If not, why not? Do you feel qualified to teach American English pronunciation in the United States? What about in your home country? Why or why not?

What are some reasons people might give for questioning non-native speaker teachers' expertise in teaching ESL and specifically, American English pronunciation?

THE FORUM

TESOL Quarterly invites commentary on current trends or practices in the TESOL profession. It also welcomes responses or rebuttals to any articles or remarks published here in the Forum or elsewhere in the *Quarterly*.

Implementing an International Approach to English Pronunciation: The Role of Teacher Attitudes and Identity

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■ This article reports on part of a larger research project (Jenkins, 2005) that examines the feasibility of an ELF (English as a lingua franca)[1] approach in general and the lingua franca core (LFC) in particular. The LFC (Jenkins, 2000, 2002) resulted from empirical research into mutual intelligibility among nonnative speakers (NNSs), in which the participants' desire to identify themselves through their accents as members of an international English-speaking community was taken for granted. NNS teachers' responses indicated an ambivalence vis-à-vis the desire to identify themselves thus, which this study investigates.

METHOD

I selected the in-depth interview method because it would enable me "to enter in an empathic way, the lived experience of the person or group being studied" (McLeod, 1994, p. 89) and provide insights which would be not only revealing in themselves, but also invaluable in helping to determine the precise direction of future phases of the research. Each interview lasted approximately 60 minutes, the exact length being dictated by the participant's desire to speak. Eight NNS teachers of

[1] ELF rather than EIL is the preferred term among its researchers (see Seidlhofer, 2004, p.10).

English, all female, from Italy, Japan, Malaysia, Poland, and Spain, participated in the study. All had a high level of proficiency in English. In English language teaching experience, they ranged from preservice (A) to 17 years (H). All eight had university degrees, in all but two cases (D and E) a masters as well as a first degree, and three (A, B, and G) were studying for doctorates at the time. Participants showed wide variation in terms of their knowledge of ELF. Some had barely heard of it, and others were themselves researching it. This variation was intentional, an attempt to discover the extent to which teachers' prior understanding of the concept of ELF and a positive orientation to it in theory could lead to differences in their attitudes toward and identification with NNS and native speaker (NS) English accents and a willingness to teach ELF accents in practice.

The interviews broadly followed a pattern (see Appendix). Critical issues drawn from documented responses to the LFC proposals and the language and identity literature were covered in every interview. However, the interview prompts were not followed rigidly. Participants were encouraged to take the lead by introducing information, elaborating at length on any topic that they wished to, and reflecting on their answers, while I kept my contributions to a minimum to avoid influencing their responses.

The first question, which asked about language background, was intended both to put participants at their ease by offering them an easy topic and to provide information which might help account for some of their later comments. The final question, which asked for their views of the questions I had been asking, was intended to give them the opportunity to reflect further on whatever had been for them the most salient issues raised. The other questions focused on their attitudes to and identification with NNS and NS English accents, their perceptions of others' attitudes and identification, and their beliefs about teaching these accents. I used the prompts to bring to the surface the underlying and largely subconscious causes of their attitudes, which would help me as well as the participants understand the situation. To this end, I sometimes asked the same question several times in different ways or returned to a question to highlight emerging contradictions.

The final (unrecorded) part consisted of the interviewer's more detailed explanation to the participant of the purpose of the interview as a prelude to seeking consent to use the recorded data for publication. This elicited further, sometimes substantial commentary from the participants, and in retrospect it would have been wise to leave the recording equipment running to the very end of each session.

All the interviews were recorded and transcribed, and coded on the basis of the original questions. They were then categorised according to the three larger themes that emerged (Table 1).

TABLE 1
Interview Data-Analysis Framework

Accent attitudes

- Attitude to own English accent
- Desire for native-like accent
- Perceived attitudes of others to participant's accent/L1 accent group
- Participant's attitudes toward other NNS English accents (own L1 group/other L1 groups)
- Beliefs about accent hierarchies and status

Perceived effects of experiences (educational and social) on accent attitudes

- On self
- On their learners

Teaching ELF accents*

- Desire to teach their local regional L2 accent as the norm
- Perception of colleagues' desire to teach local regional L2 accent as the norm
- Perception of effect of learning about ELF accents on teachers' attitudes towards and desire to teach these accents

*In the interviews, I used the term ELF because most participants were unfamiliar with EIL.

In this article, it is not possible to examine the rich data in detail or in respect of all subcategories of the framework, so only subcategories with the most direct bearing on the discussion in hand are included in the findings.

FINDINGS

Accent Attitudes

All the participants revealed ambivalence regarding their attitudes toward their own English accent. Three responded positively when asked early in the interview if they liked their accent:

> Actually I'm quite happy with my pronunciation. (A)
>
> Yeah, I think so, yeah. (B)
>
> Two weeks ago I recorded my voice on the voice recorder. I quite liked it, and I'm still working on it. (C)

Four participants were negative or uncertain:

> I don't really know if I like it. I always try to do my best. . . . actually I wouldn't say I'm satisfied with my English. (D)
>
> Erm, no. I think there are some problems that I have to solve. (E)

> Sometimes I do and sometimes I don't. (G)
>
> No . . . I want to improve my accent. (H)

One said that she had never given the matter any thought:

> I don't really think of it, no, I mean, I do not say I don't like it, I have no attitude as if I haven't been thinking about it. (F)

However, contradictions emerged once the participants began considering how they would feel if their accent were mistaken for that of a NS. The four who had responded positively or neutrally to the previous question revealed varying degrees of attachment to a NS accent. Even Participant A, whose previous liking of her accent had been unqualified, now admitted that she would feel "very mixed" and went on to attribute this feeling to her perceived inability to pronounce English like a NS and to "teachers who force students to be like that." Participant B initially replied that anyone who said they mistook her accent for a NS's was lying, but added, "I would be happy because then it would indicate that, you know, probably I have a good command of the language." Participant C likewise said, "I would be really glad," though she doubted that it would happen in the near future, and F commented that "it's a little bit pleasing because that's what I've been taught for so many years and years, on and on, back in Poland." Later, though, she contradicted herself: "I feel Polish. . . . I don't want to sound like an English person, obviously not."

The four who from the start had been less positive about their accents were more consistent in their responses to the NS question. Participant D said she would be "very happy," and like B she equated a NS accent with proficiency in English: "If someone tells me that I speak good English and that you can't actually realize that I'm coming from Spain, for me would be good news like really feeling proud of it." Participant E responded at first by saying, like B, that she would not believe it, but continued: "I suppose it would be a good thing because it's part of learning a new language . . . to sound as much as the model." Yet despite this and the fact that she had earlier claimed not to like her accent, when I asked her later which accent she would most like to have, she chose her own, in words which echo F's response: "I am comfortable about it. I'm proud of it. . . . I don't want to be what I am not. I am Italian, I have my own culture, my roots are Italian."

Participant G's instant reaction to the NS question was that she would be "flattered," though on reflection she accounted for it by adding, "I would be flattered because it tells me something maybe of my linguistic ability to pick up accents and reproduce them." However, one of the reasons she had given previously for feeling some negativity toward her

Italian-English accent was that people prejudged her level of proficiency on the basis of it: "Sometimes they think that I don't speak English well enough or they're a bit kind of patronizing with me." This response suggests that pride in her linguistic skill would not be her only reason for feeling flattered if her English accent were mistaken for that of a NS. Participant H, on the other hand, was unequivocal: "I'm quite happy with it. I'm seeking for that level." Later in the interview she claimed that like all Japanese people, she "worships" NS English pronunciation and wants it for herself, and that a "good" accent means a NS accent, but equally she said that she would teach a Japanese-English accent and tell her students that it was "good." She noticed the contradiction herself and justified it by arguing that a Japanese-English accent damaged her confidence and, like some other participants, said that a NS accent would bring her greater success in her career.

Effects of Experiences

In response to Question 9, every participant could recall at least one experience or situation which she believed had affected her orientation to her English accent. Interestingly, three participants (B, C, F) initially answered Question 9 with "No," but subsequently remembered a negative experience or situation which they narrated at some length. Experiences which may have had a quite major effect on the formation of their attitudes had apparently been lying dormant.

Other participants were more aware of what had happened to them and even brought up negative experiences within their responses to entirely different questions. For example, when I asked Participant A why she thought many NNSs of English say they would want to sound native-like, she recounted an early classroom experience in which she had had problems pronouncing the word *tree:*

> It's probably learning experience, from learning experience. Actually I have a lot of very bad experience about my own pronunciation during my school time. I never forgot this, yeah, this story. I started to learn English when I was aged 11, from the very start of junior high school education, and it's, yes, school term from April, probably it was May or June, and my first English teacher forced me to pronounce one particular word in front of other students, but I couldn't, because that word is actually 'tree' t-r-e-e, tree, and I pronounced like 'teree' or something like that. I think it was quite okay, but he forced me to pronounce so many times. . . . I was a child and I had just started to learn English. I lost motivation actually, and many students started to laugh at me. It was quite a bad experience.

In words reminiscent of Canagarajah's (1999), she went on to describe her reaction to this experience as "a kind of resistance to such kind of

teachers," a resistance to wanting to sound native-like, and likened commenting on someone's pronunciation to commenting on their physical features: "Your eyes are small or something like that, it's quite a similar thing, I think." Clearly, Participant A's childhood classroom experience had a substantial effect, and she went on to narrate two later incidents involving her and two others involving colleagues.

In some cases, the bad experiences took place in a NS environment. For example, Participant G described how a London taxi driver reacted toward her when she could not open the taxi door:

> It was like two o'clock at night, and there was me struggling and he was telling me things that I didn't understand, and I was really tired so probably my Italian accent was much stronger than it usually is, and he was really bad to me, and I think he was really treating me badly because of my accent.

The fact that several participants were able to recall their experiences in detail, often after many years, suggests that such events may have had a greater influence on the formation of accent attitudes and development of identity than has hitherto been recognised, and that it is therefore crucial to investigate the phenomenon in greater depth for its potential to affect the feasibility of teaching ELF accents.

Teaching ELF Accents

Asked if they would teach their students a pronunciation model based on their local L2 accent with LFC adjustments for international intelligibility, most participants said they would be happy to do so, though three (E, F, H) added that it would not satisfy their personal goals. For example, H commented, "I should support EIL view as a teacher, but as a person maybe I'm aiming at native-like." Although claiming to support ELF pronunciation, most nevertheless continued referring to NNS differences from RP or GA as "incorrect" forms rather than ELF variants, as if they could accept ELF in theory but not in practice. Participants may have responded this way in part because there are no ELF pronunciation materials, something which almost all participants mentioned. Some also anticipated problems with students' and their parents' attitudes toward ELF. Meanwhile, one (D) said she would not teach it because "we are not trying to make up different pronunciation" (i.e., different from RP or GA), and another (E) said she would teach it, but only because she regarded native-like pronunciation as beyond her students' abilities: "There's no way to make them speak as an English. . . . it's an ideal," so to end up with an Italian-English accent "would be a good result."

As regards their colleagues, participants were less sanguine. Most thought that their colleagues would not want to teach ELF pronunciation because, for example, they would think it is "wrongly pronounced"

(B), that NS accents are better "because that's where English was born" (G), and they would have a "complesso d'inferiorita" (E) or lack of confidence (several) about their own accents. Some thought their colleagues might teach it if the core features were established, the ELF case "was made properly" (F), and it was clearly being taught for international communication, though most thought their colleagues could only conceive of communication with NSs and "quickly forget nonnative speakers" (A). They attributed their colleagues' resistance to lack of international travel, which meant that their colleagues' contact with English was largely through teaching materials with a strong NS bias. Three (A, F, and G) thought their colleagues might change their minds if they travelled and realised how English is spoken among NNSs. Participant H emphasised the need to go slowly: "Step by step, gradually and gradually, and the Japanese view should be changed."

What emerges from the participants' comments is a belief that ELF pronunciation stands little chance of being adopted even by teachers who understand the concept unless it is validated by their own experience, legitimized through inclusion in teaching materials such as recordings and dictionaries, and taught in teacher education programs. Even then, most had some doubts because they saw lack of confidence in NNS accents as an irresolvable issue.

CONCLUSION

For now, I draw a tentative conclusion from the many similarities in attitude across the eight participants, despite their differences in L1, teaching experience, and knowledge of ELF, which may offer insights into teachers' perspectives on ELF pronunciation as well as indicate factors that require further exploration before its pedagogic feasibility can be fully evaluated.

The most important point is that it cannot be taken for granted that teachers (let alone all speakers) from the expanding circle wish unequivocally to use their accented English to express their L1 identity or membership in an international (ELF) community. Past experiences, both classroom and social, factors in their present situation, and their assessment of their future chances of success may combine to affect their attitudes to English at the deeper level. In some as yet unclear way, these factors may cause them to identify with NSs, or to put it another way, to want a NS English identity as expressed in a native-like accent. Such an accent according to this study's participants is "good," "perfect," "correct," "proficient," "competent," "fluent," "real," and "original English," whereas a NNS accent is "not good," "wrong," "incorrect," "not real," "fake," "deficient," and "strong." And yet an attachment to their mother tongue also seems a crucial part of who they are, one which they appear

to find difficult to dispense with in English. This attachment leads in turn, I suggest, to an inherent ambivalence and hence to the contradictory statements. The participants appear to have what Bamgbọṣe (1998) calls "a love-hate relationship" with English: "admiration for the native accent, even by those who . . . would rather not use it" (p. 7), though I would add that whether they "would rather not use it" is itself a complex issue.

According to Norton (2000), an important aspect of identity in language learning is "how the person understands possibilities for the future" (p. 5). It seems likely that ELF pronunciation will only be taken up if teachers themselves ultimately see an ELF identity as providing their students with accents which will enhance rather than damage their future social and economic prospects internationally. Recognition of ELF pronunciation as acceptable variation rather than learner English resulting from L1 transfer will thus depend—irrespective of linguists' opinions—on the extent to which teachers regard it as working in their and their students' favour rather than working against them.

What exactly is needed for this conceptual shift to occur remains to be discovered in further research. For now, there may at least be some cause for optimism to the extent that the interviews in this study led the participating teachers to identify and reflect on the roots of their ambivalence and contradictions.

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APPENDIX

Interview Prompts

1. Tell me a bit about the languages you speak: where, when, who with?
2. What English accent would you say you have? Which features made you decide?
3. Do you like it?
4. Is it okay with you if people recognise that you speak English with [your NNS] English accent?
5. How would you feel if someone thought your English accent was [another NNS] English accent?
6. How would you feel if someone thought your accent was a native-speaker accent?
7. If you could choose any accent including your own, what accent of English would you most like to have?
8. What do you think of other NNS English accents from your own L1 group/from other L1 groups?
9. Have you ever had any bad experiences in English that you felt were because you're not a native speaker?
10. What do you think about the idea of the goal of pronunciation teaching being the local L2 accent? Do/would you teach it? Do/would your colleagues?
11. Why do you think a lot of NNS teachers of English are against this idea?
12. What do you think about the questions I've been asking you?

The Lingua Franca Core: A New Model for Pronunciation Instruction?

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■ Few would dispute that English is now the primary lingua franca, the language used to communicate among speakers of different native languages throughout the world. However, English, like any language, is made up of many varieties. Standard English, the variety that is taught in schools everywhere, is primarily a written language. It is not an accent

and has no single agreed upon pronunciation. Therefore, the first question any pronunciation teacher must address is, what accent should I teach? Until now, the choice has been between RP (*Received Pronunciation*, also called BBC English, which I will refer to simply as *British English,* BrE), the upper class British English accent codified by Daniel Jones about 100 years ago, and *General American English* (AmE), as described by the American structuralists about 50 years ago. Jenkins (2000) sets out a third choice, the *lingua franca core* (LFC), for the millions of English learners around the world who do not want to or are unable to learn BrE or AmE pronunciation. Her work derives from the *World Englishes* or *English as an international language* (EIL) movement, which recognizes that there are more than 300 million nonnative English speakers (NNSs) who may regularly use English to communicate more with each other than with native English speakers (NSs). These speakers have no need of a near-native accent and should not be forced to choose between two models or "brands" of English that they may not want to identify with (see McArthur, 2002, for an excellent discussion of this point). Jenkins (2000) believes that teacher training courses reflect a "native-speaker bias" (p. 1) in promoting unnecessary and unrealistic pronunciation targets for learners. Her LFC is a scaled-down list of supposedly more teachable and learnable pronunciation targets and is based on her own research on intelligibility errors among NNSs.

WHAT IS INCLUDED IN THE LFC?

According to Jenkins (2000, 2002), the LFC consists of the following core areas:

Consonants

- All consonants (except /θ, ð/ (*thin, then*), which can be replaced by /f, v/).
- Final /r/ as in AmE (do not drop /r/ in *here, hair,* etc., as in BrE).
- Medial /t/ as in BrE (do not voice /t/ in *matter* nor delete it in *winter* as in AmE).
- Approximations of core sounds are acceptable as long as they will not be heard as another sound (e.g., phonemic distinctions must be maintained).
- Aspiration of word initial voiceless stops /p, t, k/ (*pin* /p^hɪn/, *tin* /t^hɪn/, *kin* /k^hɪn/).
- No omission of consonants in word initial clusters (*promise, string*).
- Omission in medial and final clusters only according to inner circle English rules (*facts* = *fax*, *bands* = *bans*).

- Addition (vowel epenthesis) is preferable to omission (*product* as [pərˈɑdʌkʊtə], not [ˈpɑdʌk]).

Vowels

- Contrast between so-called long and short vowels (*seat, sit* /iː-ɪ/ or /i-ɪ/; *cooed, could* /uː-ʊ/ or /u-ʊ/; *cart/class, cot, caught* /ɑː-ɒ-ɔː/ BrE or /ɑr-æ-ɑ-ɔ/ AmE).
- No substitutions for the vowel in *bird*, /ɜː/ (AmE /ɚ/; e.g., *heard* distinct from *hard*) but other nonnative regional qualities are acceptable as long as they are consistent (e.g., it is not necessary to diphthongize /eɪ, əʊ/ in *say, so*).
- Vowels shortened before voiceless consonants and lengthened before voiced consonants (*sat, sad* /sæt-sæːd/, *pick, pig* /pɪk-pɪːg/).

Prosody

- Correct placement and production (lengthening) of nuclear stress and contrastive stress (*You deserve to be SACKED* vs. *You deSERVE to be sacked*).
- Division of the speech stream into word groups.

HOW DOES THE LFC DIFFER FROM CURRENT ESL AND EFL APPROACHES?

The LFC departs from current pronunciation methodology by emphasizing segmentals (consonants and vowels) and downplaying the importance of suprasegmentals (rhythm, word stress, and intonation). Many current texts written from a NS orientation (Celce-Murcia, Brinton, & Goodwin, 1996; Gilbert, 1993; Grant, 2001; Miller, 2000), emphasize the teaching of prosody as the most efficient way of achieving some measure of fluency, which seems to be highly correlated with NSs' perceptions of intelligibility and thus is important for scoring well on oral proficiency tests. Anderson-Hsieh, Johnson, & Koehler (1992) found overall prosody (as opposed to segmental or syllable structure errors) had a greater influence on pronunciation ratings for standardized spoken language tests. Derwing and Munro (1997) conclude that "improvement in NNS comprehensibility, at least for intermediate- and high-proficiency learners, is more likely to occur with improvement in grammatical and prosodic proficiency than with a sole focus on correction of phonemic errors" (p. 15). In research comparing groups of students who had been given either segmental or prosodic training, it appears that prosodic training transfers to extemporaneously produced speech, but that segmental

training, although resulting in improvement in reading aloud, does not (Derwing & Rossiter, 2003, p. 4).

In contrast, Jenkins (2000) says "for EIL, and especially for NBESs [nonbilingual English speakers], the greatest phonological obstacles to mutual intelligibility appear to be deviant core sounds in combination with misplaced and/or misproduced nuclear stress" (p. 155). She aptly notes that the research showing the importance of suprasegmentals in intelligibility has been based entirely on NS listeners, who may process speech differently from NNSs. In her data of NNS–NNS interactions, she found the majority of communication breakdowns were due to segmental errors (or segmental combined with nuclear stress errors). Jenkins found that these were the most difficult problems to resolve because NNSs primarily use bottom-up processing strategies and seem unable to compensate for pronunciation errors by using contextual or syntactic information, especially in situations of processing overload.

Therefore, she recommends not teaching weak forms, word stress, "stress-timing," pitch movement, and other features of connected speech (reductions, assimilations). In fact, she claims that "weak forms may actually hinder intelligibility in EIL," that despite teachers' efforts to describe and model them, "learning rarely follows," and that focusing on them "may impede the later acquisition of weak forms in learning outside the classroom through exposure to L1 speech" (Jenkins, 2000, p. 147). Similarly, whereas word stress seems to be important for NS listeners, Jenkins finds that it rarely causes intelligibility problems for NNS–NNS interactions and that "word stress rules are so complex as to be unteachable" (Jenkins, 2000, p. 150). She also finds most aspects of intonation, except nuclear stress, to be unteachable.

IS THE LFC MORE TEACHABLE AND LEARNABLE?

Obviously, requiring students to only approximate BrE or AmE sounds using NS-influenced qualities rather than struggle to reproduce them exactly would make life easier for both teachers and students. Similarly, most teachers would agree that consonants are easy to teach and should not be omitted. I also agree that mastering the consonant system, which is quite stable across all varieties of English, is extremely important for NNSs. However, some of the details of the LFC may not be more teachable or learnable. Only /θ/ and /ð/ are left out of the inventory of consonants. Students must still learn to produce and distinguish all the other consonants and most consonant clusters. This really does not reduce the teaching load very much. In addition, from my 30 years of teaching experience, I do not think that having students replace /θ/ and /ð/ with /f/ and /v/ is very helpful. For many English language students, /v/ is already a problematic sound. Students from many L1s

confuse it with /w/ or /b/ or devoice or drop it word finally. In my opinion, it is far easier to have students substitute /t/ and /d/, which most learners can already produce and which use the same articulators. One also wonders why /ʒ/ (*measure*) is not omitted from the inventory. Like /θ/ and /ð/, it did not account for problems with intelligibility in Jenkins's data, and most NNSs can easily be taught to substitute /ʃ/ (*shoe*), if necessary, with no loss in intelligibility.

Although the rules for teaching vowel length before final consonants appear simple (and thus learnable, Jenkins, 2000, p. 141), they are among the most difficult aspects of English for NNSs to learn and often are not mastered by even very fluent speakers (in my own data). Teaching vowel length before final consonants requires good phonetic training, which many teachers lack. Similarly, the difference between /i/ and /ɪ/, /u/ and /ʊ/, along with distinguishing lengthened /ɪ/ in *live* from the shorter /i/ in *leaf*, is the bane of pronunciation teachers. One wonders why /ʊ/ is included in the LFC: It occurs in very few words (though they are common words, e.g., *good, should*), and there are few minimal pairs with /u/ that would cause confusion. Most likely, /ʊ/ appeared with insufficient frequency in her data to make any definitive statement.

In stating that students need to master the difference between long and short vowels, Jenkins only gives the example of *leave* and *live*. It is unclear which of the vowel pairs beyond /iː-ɪ/, /uː-ʊ/ Jenkins is referring to. Presumably learners would also need to differentiate the vowels in *cat, cot/cart, caught,* and *curt*, which is no easy task. By referring to the long-short vowel distinction, Jenkins defines the LFC in terms of an analysis of the nonrhotic BrE vowel system. Yet she recommends that NNSs pronounce final /r/, so it is difficult to understand which vowel contrasts are included in the LFC's vowel system.

Jenkins rightly focuses on nuclear stress as the most important area of intonation to be taught. It is difficult for learners to change their overall intonation contours (rises and falls), and errors are unlikely to lead to unintelligibility or even to be noticed by NNS listeners. Although the basics of *nuclear stress* and *contrastive stress* are easy to teach and learn (most students can emphasize important words), it is not so easy to teach and learn which words nuclear stress falls on in extended discourse. The concepts of *given* and *new information* and contrastive stress are difficult for NNSs because they interact with the particular words as well as with the verbal and nonverbal context.

In contrast, Jenkins's lack of attention to word stress is hard to understand. She calls word stress a "grey area" (2000, p. 150), but she still does not believe it is crucial for EIL. Yet it fits several of the criteria for inclusion in the LFC. First, it is, in my opinion, teachable: A handful of basic rules can account for 85% of polysyllabic words (see Dauer, 1993, p.

67–68). Second, it is hard to understand how to teach aspiration, vowel length, or nuclear stress (all of which are part of the LFC and are associated with word stress) without students having been taught which syllable to stress in a word. Finally, students need to be taught word stress because it does not appear in the writing system and many are not aware of its importance.

Can vowel reduction be dispensed with altogether? Jenkins believes it to be unteachable, unlearnable, and unnecessary from a NNS listener's perspective. Certainly, if a listener is trying to hear words as they are spelled, this is true. However, vowel reduction may be very important for the speaker. It would be very difficult for anyone to speak English at a natural speed and pronounce all the consonants, consonant clusters, and long stressed vowels of English precisely without reducing syllables, either in length or in quality. Simplification is inevitable: A speaker can either drop consonants (a typical solution for NNSs) or significantly reduce unstressed syllables, especially in function words (a common solution for NSs). In either case, the burden of speech production is lessened. Similarly, *linking,* which Jenkins finds not important to teach, helps students to pronounce final consonants: For most NNSs, the choice is to link or to omit. Thus, although not reducing vowels, not using weak forms, and not linking may not affect intelligibility much among NNSs, they still can help students produce English more fluently. Also, because they are departures from the spelling system, most students are unaware of them and will not acquire them on their own at later stages of learning. I also believe that they promote better phrasing and pausing, the LFC's "division of the speech stream into word groups," which most pronunciation teachers agree is extremely important.

WHAT CAN BE LEARNED FROM THE LFC?

A "foreign accent" is okay. NNSs' pronunciation of English is better viewed as regional accent variation, and teachers, test makers, and the wider public should therefore be more tolerant of it, as we should of all varieties of English. Teachers are often frustrated by students' seeming inability to improve their pronunciation. Students may struggle with pronunciation because it is closely associated with identity. Even in ESL situations, certain students may not want to sound American or Australian or English. Perhaps if teachers would accept some L1-influenced speech patterns rather than trying to change them, they would feel less frustrated and would better serve their students' needs for intelligible speech.

Intelligibility should not be defined exclusively in relation to NSs. Although everyone states that the goal of pronunciation instruction is intelligibility, it is difficult to define and to measure. By focusing on NS

judges, most research seems to have equated intelligibility with fluency. Fluency is rewarded on speaking tests, possibly more than it should be in relation to accuracy and clarity. Obviously, more research using other paradigms to evaluate intelligibility (such as mutual understanding in interactions as Jenkins has done, rather than rating tape recordings) needs to be done, and NNSs need to be included as listeners.

Yet it is important to note that Jenkins's data are based on a small number of well-educated, motivated NNSs whose proficiency in written English, which they learned first, is at the intermediate to advanced level. (They were practicing for the Cambridge Certificate in Advanced English.) It is not clear whether these results can be generalized to a larger population of less literate learners or to more formal extended discourse.

The LFC opens a debate on pronunciation targets and teaching priorities. Jenkins (2000) says that the LFC "is neither a pronunciation model nor a restricted, simplified core in the style of Quirk's Nuclear English (1982)" (p. 158). Rather, she attempts to redefine what counts as an error by broadening pronunciation targets: As long as phonological distinctiveness and consistency are maintained, NNSs need not try to reproduce the exact phonetic qualities associated with a particular accent (e.g., *go* may be realized as /gəʊ/, /goʊ/, or /go/). In 2002, Jenkins calls the LFC a "syllabus" (p. 23) for teaching EIL, a list of the essential points to be focused on in the classroom. Teachers need to establish realistic teaching goals for their particular students. It is very easy for teachers of EIL who have been trained in an ESL setting or who use textbooks that have been written primarily from a NS-as-listener perspective to accept those priorities even though they might not be applicable to their situation. ESL teachers often have mixed classes, composed of not only foreign-born students who plan to stay in the host country for the rest of their lives, but also students and professionals who will return to their home country in a few months or a few years. Is the current strong emphasis on prosody in the best interest of all of these students? Are students shortchanged by not focusing enough on segmentals, particularly consonants? In the EIL context, some students will go on to become fully bilingual speakers or to interact frequently with NSs. Will focusing on segmentals and ignoring rhythm in production help them to make this transition? Ultimately, Jenkins's ideas raise more questions than answers. Pronunciation teachers may disagree about what the priorities should be for various groups of students, about what is more or less teachable and learnable, but a healthy debate is needed on these topics. Hopefully, it will stimulate both empirical and classroom-based research and enable teachers to evaluate more critically the needs of their students so that they can strike the right balance between segmental and suprasegmental pronunciation teaching.

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Using Student-Produced Recordings With Monolingual Groups to Provide Effective, Individualized Pronunciation Practice

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■ The publication of *The Phonology of English as an International Language* (Jenkins, 2000) has provided help in determining suitable models and goals for work on pronunciation. The book focuses on pronunciation for

English as an international language (EIL), providing important insights into deciding priorities and methodology for EIL pronunciation work, insights that have direct implications for classroom practice. Jenkins proposes a *lingua franca core* (LFC), a set of pronunciation features that her empirical research suggests are essential for mutual intelligibility in communication between nonnative speakers of English. This focus on nonnative speaker intelligibility is attractive to those of us who teach in monolingual contexts.

With respect to methodology, Jenkins (2000) reaffirms the value of traditional teacher-led activities such as drills and minimal-pair work, which she considers valid techniques for taking learners to procedural competence—the ability to successfully perform a given feature as opposed to possessing formal knowledge of it—in the different components of the LFC. Completely new in pedagogical terms, however, is her call to prepare learners for accent variation, an unavoidable fact of EIL settings.

To deal with variation, Jenkins advocates training students, through student-governed spoken interaction, in the deliberate use of the naturally occurring language phenomenon of *accommodation* (Giles & Coupland, 1991). In spoken interaction, the participants subconsciously adjust their output, or accommodate (e.g., grammatically, lexically, phonologically), toward their interlocutor(s). Regarding pronunciation in an EIL framework, with speakers from different first language (L1) backgrounds, Jenkins (2000) found that accommodation is articulated through adjustments that overcome negative phonological transfer from the L1. That is to say, driven by the need to be understood, speakers adjust their pronunciation, consciously or otherwise, until communication is successfully achieved. Because of the different L1 backgrounds involved, these adjustments involve converging on the target forms of the LFC (Jenkins, pp. 58–67).

PRONUNCIATION AND MONOLINGUAL GROUPS

In EIL communication, with interlocutors from different L1 backgrounds, phonological accommodation helps international intelligibility. However, in a monolingual setting, when activities move from the initial teacher-led drills to student-governed pair or group work, pronunciation accuracy can suffer. When an attempt at a minimal-pair discrimination is unsuccessful, for example, the speakers tend to converge not on an internationally intelligible LFC form of the problem sound, but on a pronunciation influenced by their shared L1 phonology. In other words, in monolingual settings there is a danger of increasing rather than decreasing L1 phonological transfer. For example, when a pair of students in one of my classes were unable to resolve the difference

between *wrote* and *road*, I observed them converging on /ro-at/ for *road*, a variation strongly influenced by their shared L1 (Castilian Spanish). This led to intelligibility for them but their convergence would probably prove unintelligible in EIL communication with interlocutors of other L1s.

This strategy of convergence on the L1 is not adopted solely because of the desire to complete the exercise. Sociopsychological issues are also at play here, as Jenkins (2000) discovered when observing same-L1 pairs involved in the information-gap tasks she advocates for training learners in accommodation skills. Many of her subjects "admitted to feelings of embarrassment in situations where they had to speak English with members of their own L1 group" (p. 193). Clearly, using communication tasks to develop accommodation skills generates a problem; these tasks only prove effective with multilingual groups because to monolingual groups, accommodating means converging on the shared L1 phonology. Providing learners in monolingual groups with communication tasks invites them to move away from internationally intelligible forms of the target features.

In short, communication tasks are classroom activities that encourage learners in multilingual groups to actively adjust their pronunciation in search of intelligibility and to do so within the framework of a meaningful task that is integrated into their normal lesson. Communication tasks provide learners with individualized peer feedback about the effectiveness of each adjustment, and they avoid the anxiety or embarrassment many learners feel when corrected by teachers in front of their peers.

Because the EIL settings in which the effectiveness of communication tasks comes into play are "impossible to organize in monolingual classrooms" (Jenkins, 2000, p. 191), teachers need to find alternatives for monolingual groups. Although these alternatives will not help them develop accommodation skills, they should provide learners with opportunities to

- work on pronunciation through meaningful tasks integrated into their coursework.
- speak with an international audience in mind.
- practice in private as opposed to performing in front of the whole class.
- consciously make adjustments to their pronunciation to achieve accurate pronunciation of selected target forms.
- receive individualized feedback from their teacher as well as their peers.

The remainder of this article describes a technique that fulfills these criteria for monolingual classrooms.

METHODOLOGY

The technique is an adaptation of the *pronunciation clinic* (Bradford, 1995) and shares common ground with the *oral dialogue journal* (Celce-Murcia, Brinton, & Goodwin, 1996). However, whereas Bradford uses each recording as the basis for an obligatory one-to-one tutorial, in the technique I am describing, the finished, marked recording can, if student and tutor agree, be the end-point of the process. Tutorials are then reserved for students with significant problems. Similarly, where Celce-Murcia, Brinton, and Goodwin aim to promote oral fluency, with feedback on selected aspects of accuracy, in my technique, pronunciation accuracy is the central concern. The technique essentially involves students recording texts that reflect how they might expect to use spoken English in their real lives, therefore increasing meaningfulness. The recordings can be either monologues or dialogues. The finished recording is given to the teacher, who marks it with a suitable, objective grading scheme. Each recording must target only a few features, and the pronunciation focus of the assignment must be made clear. Doing so improves the effectiveness of the learner's efforts and prevents students with lower skill levels from feeling overwhelmed by the task.

Being asked to record themselves as a means of improving their pronunciation is completely new to my students. As a result, they need a clear framework in which to perform. For teachers in a similar situation, it is useful to keep the following points in mind:

- The text to be recorded should be integrated into current work so as not to separate pronunciation from the rest of language practice and thus reduce its meaningfulness.
- The text can be scripted (e.g., dialogue from a course book) or student generated. In both cases, learners must be fully familiar with the text before recording it so that they do not suffer from processing overload during the recording, which draws their attention away from pronunciation and leads to reliance on their L1 habits.
- The text should be an appropriate length; 2 minutes is the maximum length because students have difficulty pronouncing longer texts and the teacher does not have time to mark longer texts.
- Students should be strongly encouraged to work together both before and during recording. The presence of the other student can provide key feedback about the correctness of target features as well as the effectiveness of any adjustments each student makes. Such peer feedback is often more acceptable and more accessible than input from teachers (Celce-Murcia, Brinton, & Goodwin, 1996, p. 351; Pica & Doughty, 1985), which makes it a valuable aid to improved pronunciation. It can also be an alternative to the natural

feedback provided during communication tasks with multilingual groups.

It is important to note that peer feedback does not necessarily invite convergence on the shared L1. The students' focus on selected pronunciation features, as well as exposure to the models presented in class prior to the recording session, helps make peer feedback both constructive and supportive.

The exact text will depend on what the students are studying. The students in my classes are working toward a university diploma in tourism management. For a typical group of 20–25 students, with abilities ranging from pre-intermediate to upper intermediate level, I use dialogues or monologues on topics such as a hotel booking, a description of a monument (see Appendix), a weather forecast, and a complaint. In practice, most aspects of pronunciation can be found in such texts, but I employ the first recording a new group makes to introduce the technique itself. With later recordings my goals are more ambitious and clearly related to features of the LFC. For a unit on weather, for example, students produce a recorded forecast, which within the framework of tourism-related English represents a real-life task. I usually provide the text to be recorded so I can focus on specific pronunciation targets, but sometimes I let students write their own forecast.

A variety of activities prepare the class for the recording, beginning with listening to an authentic weather forecast. For pronunciation, the discourse they are working on determines the targets, in this case tone units and linking. The following is a typical basic teaching sequence:

1. Introduce the topic. Work on vocabulary.
2. Listen to weather forecast and answer questions on content.
3. Listen again. Introduce the concept of *tone unit*.
4. Practice detecting tone unit boundaries with the same text. (Use the term *pauses* in class.)
5. Practice predicting where tone unit boundaries may or may not meaningfully be established. (A different text can be used at this stage.)
6. Examine simple consonant-vowel and consonant-consonant linking. (Boundaries depend on a lack of pausing within the tone unit itself.)
7. Clarify all issues related to making the recording.

Although tone units and linking are more commonly seen in Spain as part of university courses in phonetics, my intermediate-level students immediately see the value of breaking speech down into tone units, or *thought groups* (Rogerson & Gilbert, 1990, p. 54), and benefit from seeing

that linking is a natural part of the speech flow in English, just as it is in their L1.

Marking

Communication tasks in EIL settings (i.e., with multilingual groups) are self-correcting with respect to pronunciation. If the learners successfully resolve the task, their pronunciation, by definition, is correct. Encouraging adherence to an EIL norm in a monolingual group, however, requires setting explicit pronunciation objectives and making them the sole focus of marking. There are a number of reasons for this:

- With multiple recordings of the same text, broad descriptors such as *comfortably intelligible* (Kenworthy, 1987) are not useful. Not only are such terms highly subjective, but for teachers who are nonnative speakers, comfortable intelligibility is achieved when the student converges on the shared L1. In addition, through repeated listening, teachers quickly become familiar with the script and are consequently able to rescue what would often be unintelligible to first-time listeners. Finally, in monolingual settings, the shared L1 allows the teacher to decode what might prove unintelligible to speakers of other L1s.
- Learners direct their attention to the selected features when preparing the recording, often practicing them quite intensely. (See the comments on students' reactions in the next section.) This directed attention reduces the chance of convergence on the L1.
- Teachers who are native speakers should no longer feel overwhelmed by the frequently wide range of deviations from their internalized norm and so should be more able to judge if the target features have been adequately produced.
- With a reduced number of features to consider, almost all of which will lie well within their own phonological competence, teachers who are nonnative speakers should feel more confident about assessing acceptable performance.

Teachers, native and nonnative speakers alike, must educate themselves to ignore errors of pronunciation that are not formally part of the work under consideration. If a student drops a final consonant, conflates two consonants, inappropriately simplifies a cluster, or stresses the wrong word in a tone unit, the teacher must address this while marking. All are items in the LFC, and all are accessible to teachers who have only basic training in phonetics. Moreover, because the student's work is recorded, the teacher can listen to it more than once if he or she is uncertain. Regarding this last point, texts of the type described in this article can

and should be marked in no more than 5–6 minutes, administration time included. Spending longer too easily leads to an overly critical approach.

Student Reaction

Four years ago, I received informal, written feedback from students on the value of making recordings. The following is a selection of their predominantly positive comments:

> I like recording cassettes to see if my pronunciation is correct and where I am wrong.
>
> Very useful. I think I can learn a lot mainly in the pronunciation.
>
> The recording is a very practical activity where you can measure your progress.

For the 3 years since receiving this informal feedback, I have administered a questionnaire, which approximately 80 students have completed voluntarily. The feedback from this questionnaire has provided insight into why learners appreciate the recording task, and certain aspects of the feedback merit comment.

The average mark for students' work during this period was higher than 7/10, and the vast majority of students declared themselves to be "happy" or "very happy" with their mark. One could argue that any student would automatically feel pleased with such a mark. However, these marks were not the product of lax grading. Rather, they were the outcome of strictly limiting marking to the targeted features. I am now happy to ignore error that lies beyond the task and so provide my students with the confidence many of them need in order to believe in their capacity to pronounce English intelligibly.

Another good indicator of my students' attitude about this technique was a question about its usefulness, which was rated 3.25 on a scale from 1 (not at all useful) to 4 (very useful). However, some of the most interesting findings come from questions about dictionary use, checking pronunciation with peers, the amount of rehearsal prior to making the recording, and the number of attempts at recording before feeling satisfied. The averages from these last two (2.86 and 2.49, respectively) suggest repeated rehearsals and various attempts. This repetition parallels the intensive practice that teacher-led drills provide in the classroom and is beneficial when trying to establish automatic pronunciation habits.

With regard to dictionary use and peer support, the averages are similar (2.59 and 2.88, respectively), indicating that students are using the dictionary to some extent and, to a greater degree, are seeking help

from their colleagues. These are laudable strategies, the latter especially so, both for the impact peer input can have in the learning process (Larsen-Freeman, 1985) and for how peer advice while making recordings parallels interlocutor feedback in the communication tasks Jenkins (2000) proposes for multilingual settings.

CONCLUSION

With multilingual groups in EIL settings, communication tasks develop essential accommodation skills. Because these tasks encourage convergence on the L1 phonology in monolingual groups in the same setting, an alternative to communication tasks is needed, both to encourage making adjustments and to replicate the other pronunciation benefits that such tasks provide. The student-recording technique described in this chapter is one such alternative. By explicitly pushing learners to work together when producing their recordings, the technique encourages adjustments in pronunciation and allows for peer feedback. The recordings also offer students a nonthreatening environment in which to practice meaningful tasks.

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APPENDIX

Sydney Harbour Bridge. [Harding, 1998]

Sydney Harbour Bridge is one of the most famous sights in the world. It is many things—an essential link between the north and south sides of the harbour, the perfect postcard backdrop to the Opera House, and a great spot from which to take in the harbour panorama. It is the world's widest long-span bridge, and it was completed in 1932. It took eight years to complete and a workforce of up to 1,400 men was employed. It is over 500 metres long and nearly 50 metres wide. Supported by massive double piers at each end, the bridge spans the north and south sides of the harbour in a single arch, which has a height of 134 metres above the water at its highest point, with a clearance of 49 metres for shipping. It has two railway tracks and eight lanes for road traffic, the direction of which can be varied according to traffic requirements. There is also a cycleway and walkways for pedestrians. An average of 170,000 vehicles cross the bridge every day, although increasing traffic led to the building of a tunnel under the harbour which was opened in 1992. Keeping the bridge freshly painted is a major job, and teams of painters are permanently employed.

Marking Focus

- The pronunciation of numbers and dates (as per work from Year 1 program).
- The correct pronunciation of consonants (t, d, b, f, v).
- The correct pronunciation of consonant groups, especially at the end of words and verbs (as per LFC).

SOFTWARE REVIEWS

TESOL Quarterly welcomes evaluative reviews of software and publications relevant to TESOL professionals.

Edited by JOHN M. LEVIS
Iowa State University

Streaming Speech: Listening and Pronunciation for Advanced Learners of English.

Richard Cauldwell. Birmingham, England: speechinaction, 2002. CD-ROM for Windows.

■ Streaming Speech is one of the best software packages that I have seen, commercial or otherwise, for the purpose of teaching higher level listening and pronunciation. Originally targeted to advanced learners of British English,[1] and unfortunately not available for Macintosh users, it is refreshingly innovative in a number of ways and deserving of the description "revolutionary" found on the CD-ROM case. Because it is based on sound pedagogical principles and on the increasing focus in linguistic and applied linguistic domains on discourse (specifically on Brazil's 1997 theory of discourse intonation), its method and concept could readily be adapted to other varieties of English or to other languages, particularly those based on the Roman script.

The introduction is succinct yet thorough, in much the same way that the contents of the CD-ROM may appear unassuming at first but in fact comprise an enormous amount of information and excellent exercises. The layout of each screen is elegant and uncluttered, which makes navigating a pleasure. The target audience includes intermediate- and advanced-level learners of English who are teachers or preparing to become teachers, as well as those learners who are preparing for study in an English-speaking country or preparing to take listening and speaking exams. The goals of the program are to train learners, first, to hear and understand authentic, fast, spontaneous speech, and second, to speak rapidly with both accuracy and fluency. The CD-ROM has 10 chapters,

[1] An American/Canadian edition of Streaming Speech is available at http://www.speechinaction.com.

and the learner is exposed to four female speakers and five male speakers from the United Kingdom, including the author of the program.

What is revolutionary about the software is that the speech samples are all unscripted narratives (with some leading and follow-up questions interspersed throughout) that have been meticulously and extensively repurposed for pedagogical use. These samples range in speed from 220 words per minute to an astonishing 550 words per minute. All of the recordings of natural spontaneous speech have been analyzed thoroughly in terms of two pronunciation syllabi: (1) a discourse syllabus that deals with the choices that speakers make in terms of pitch and stress and the strategies they use to communicate effectively in real time and (2) a traditional syllabus that deals with segmentals. Analyses and exercises with the segments focus on vowels, consonants, diphthongs, and consonant clusters, including the way they are omitted, linked, and otherwise altered in rapid spontaneous speech. The discourse syllabus introduces the notion of the *speech unit,* which is described as a stretch of speech with its own rhythm, tones, and other features that make it stream-like (i.e., suprasegmentals). Learners are made aware not only of different tones (e.g., falling, level, and rising) but also of the tones' relative frequency of occurrence in English. They are taught about the use of high and low key, and how to pause in ways that are acceptable and comprehensible to listeners. Learners also have opportunities to practice dealing with common occurrences in spontaneous speech, such as restarting after mistakes, self-correcting, and repeating themselves.

The first eight chapters are each based on the narrative of a different speaker, ranging from 1–4 minutes in length. Each chapter consists of six parts, which follow in excellent pedagogical progression, with perception and noticing exercises preceding production activities. The six subsections are listening, focus, discourse features, segments, streaming speech, and review. Full transcriptions of each recording are given in two forms: an orthographic transcription (ordinary writing) and a speech unit transcription (with notations). The notations indicate the speech unit number, speech unit boundaries, tones (arrows), where the tone begins (underlined), prominent syllables (capitalized), and speed (words per minute) (see Figure 1). Learners can listen to the entire recording and can also play back selected speech units at the click of a button (see Figure 2).

The interactive exercises throughout the program are varied and meaningful. Feedback is given immediately following a user's action. Many of the examples have phonemic transcriptions of the speech units, using symbols typically found in dictionaries, for how the speech unit would have been uttered in both slow (paused) speech and fast speech (with all of the missing and linked sounds). Learners can listen to them either as a string of words spoken in citation form (i.e., as each would be

FIGURE 1

Screen Shot of Transcription From Streaming Speech

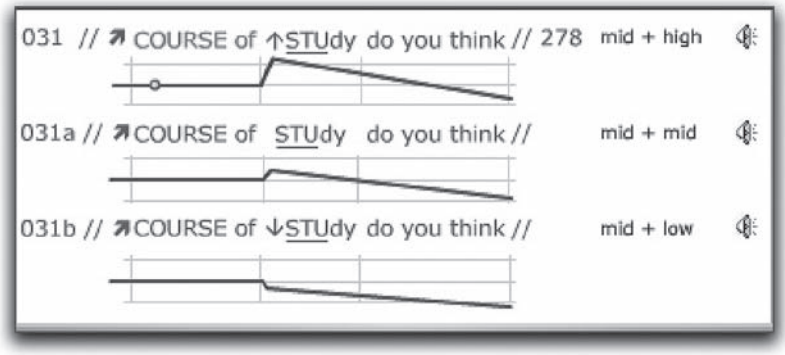
042 // → but it IS	// 288
043 // ↘ FAIRly TYPical	// 105
044 // → in TERMS of the	// 179
045 // → the sort of THING	// 288
046 // ↘↗ that it COvers	// 163
047 // → ERM	// 060
048 // → i mean it's ALso fairly TYPical	// 229
049 // ↘ EIGHteenth century TItle page	// 194
050 // ↗ you KNOW in	// 342
051 // → TERMS of the	// 180
052 // ↘ oo oh SEventeenth century there	// 235
053 // → SOrry this is JUST	// 296
054 // ↘ LATE seventeenth century	// 216
055 // ? ..but it...	// 166
056 // ↘ it's ON the ↓WAY	// 436

said in isolation), or they can hear the entire phrase or sentence as originally uttered in the authentic context.

The final two chapters do not follow the same format as the first eight. Chapter 9 allows users to select one of the eight speakers and practice intensively using the chosen speaker as a model. Chapter 10, "A Window

FIGURE 2

Learners Can Play Back Selected Speech Units



on Speech," summarizes the discourse-features syllabus and provides excellent transcription practice and speech unit exercises.

Overall, Streaming Speech represents a truly outstanding use of multimedia in the service of listening and pronunciation teaching. It has no extraneous bells and whistles. The excellent graphics, audio, and animation are all implemented judiciously and effectively. In particular, the use of Flash allows learners to observe the direction of the pitch change while hearing the utterance spoken. The use of authentic speech is in stark contrast to the vast majority of programs for pronunciation that use stilted, unnatural-sounding recordings. The program honestly and wisely does not promise automatic speech recognition and pronunciation evaluation, as so many other commercial packages purportedly offer. Technically, the program runs smoothly, at least in Internet Explorer on the computer running Windows Me that I used for testing. (It did not run in Mozilla in Windows XP.)

For possible future modifications and additions, I would offer two suggestions. First, instead of, or perhaps in addition to, the pitch contours provided for the various tones, actual fundamental frequency representations might be included (e.g., as could easily be done using Praat; see Boersma & Weenink, 2005). Providing fundamental frequency would allow learners to see, for example, the degree of fall or rise of the pitch. Second, learners' output could be verified by allowing them to record their utterances to an online voice board (e.g., Horizon Wimba's Voice Tools; see http://www.wimba.com), so that an instructor could provide individual feedback.

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Connected Speech.
Virginia W. Westwood and Heather Kaufmann. Hurstbridge, Victoria, Australia: Protea Textware, 2001. CD-ROM for Windows.

■ Connected Speech (North American English)[1] is an interactive, multimedia software program that focuses on suprasegmental features of English for adult intermediate and advanced learners. It is described by its developers as suitable for learners age 10+ and as a program both for "teaching pronunciation and effective communication skills" and "a resource to help improve listening comprehension." The instructional materials comprise a CD-ROM with an accompanying manual and a register book in which students can keep a record of their progress. Any standard Pentium 200 MHz computer with Windows 98 or higher can host the program, and it installs quickly and easily.

From the initial screen layout the user chooses one of nine speakers (each has a different mainstream North American or Canadian accent) and one of three levels (lower intermediate, upper intermediate, or advanced). Making these choices opens the first activity screen, which displays a short videotape of the speaker that can be played repeatedly. Optional introductory language activities focus on listening comprehension tasks, and the student can choose to pull up the transcript and click on individual "hotwords" to check vocabulary definitions. Discourse extracts are either narrative or descriptive, and features of spoken language such as speed of delivery and amount of linking and blending seem to depend primarily on the chosen proficiency level. Typical topics include descriptions of cities or jobs, talking about pets, or taking a trip.

Following the language section, the user chooses one of six focus areas: pause groups, stress, pitch change, linking, sounds, or syllables. Each module has the same three-part design. In the Mark & Record section, the student identifies and then practices the highlighted feature. The program uses voice recognition software to analyze the responses recorded by the student and gives immediate feedback. The second part comprises a series of exercises that can be completed in either "learn" or "test" mode, that is, with the option to change responses following feedback or to receive feedback only after the exercise has been completed. Finally, each module has a tutorial that provides more information on the targeted area.

The design features of this program are excellent. It is straightforward to use and guides the user step by step through the activity screens. The student has a great deal of control and can choose to complete each

[1] A British English version and an Australian English version of Connected Speech are also available from Protea.

section in turn, move between sections, or skip sections entirely. This flexibility is ideal for a class working on a particular module or a class encouraging students to work independently. The program offers a variety of activities, plenty of audiovisual feedback, and printable tutorials, transcripts, and answer sheets.

The program's most innovative technological component is its use of speech recognition software to provide feedback to the learner; however, this feature was also a drawback in my experience of the program. Although the minimum system requirements state that no special microphone is needed, the speech recognition program often seemed unable to recognize my responses using the standard computer microphone. Despite precise imitation of the model utterance, the program would respond, "Sorry, that wasn't clear. Please record it again," or "Sorry, that sounds like the wrong words." On several occasions, the program also gave me positive feedback when I tested it with an incorrect response. In a level-one pitch change exercise, for example, the program responded positively when I modeled a level and a rising tone instead of imitating a falling tone in the utterance "I'm going to tell you something about ↘myself."

Although attaching a more sensitive microphone externally to the computer would probably improve the functioning of the speech recognition system, machine-based feedback often lacks fine-tuning (Kaltenboeck, 2002). Users need to balance the benefits of an autonomous program with the limitations of technology because problems with the speech recognition component will handicap a student using the program for independent study. I also disagreed with a number of the program's responses in the Mark & Record sections. The developers recognize that such disagreement is possible when dealing with natural speech; it is also another reason that the program might be better suited to a classroom environment where these issues can be discussed.

With six modules and three levels, the system offers a substantial amount of content, and its coverage stands up well to comparison with current pronunciation textbooks. Like any other published instructional materials, the developers have taken positions regarding the system's features and how they should be explained; for example, they decided to use *pause groups* rather than *thought groups*. Some of the explanations and practice exercises, however, may appear outdated. In the module on pitch change, for example, rising and falling pitch choices are presented and practiced as grammatically based formulas despite current models of discourse intonation that consider suprasegmentals to play a primarily pragmatic role at the discourse level (Brazil, 1997). Although the role of pitch variation in turn-taking and topic change in discourse interaction are discussed in the advanced tutorial for the pitch change module, these features are not modeled on the CD. A secondary content issue is

the repetition of activities and tutorials. The exercises and tutorials that accompany each module vary with level but not with speaker; thus, following the new language activities that are attached to each videotape extract, the exercises and tutorials are repeated. Despite these challenges, Connected Speech is a valuable addition to current pedagogical resources for pronunciation teaching and an excellent illustration of the new possibilities inherent in computer-based programs for pronunciation instruction.

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ERRATUM

In the June 2005 issue of *TESOL Quarterly,* the review "Computer Learner Corpora and Their Pedagogical Application" misidentified Hinkel's study as based on computer learner corpora. The study was instead based on statistical analyses and comparisons of non-electronic data in both L1 and L2 essays.

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- The manuscript reflects sound scholarship and research design with appropriate, correctly interpreted references to other authors and works.
- The manuscript is well written and organized and conforms to the specifications of the *Publication Manual of the American Psychological Association* (5th ed.).

Reviews. *TESOL Quarterly* invites succinct, evaluative reviews of professional books. Reviews should provide a descriptive and evaluative summary and a brief discussion of the work's significance in the context of current theory and practice. Reviewers are encouraged to query the Reviews editor concerning their book of interest before writing the review. Submissions should comprise no more than 1,000 words. Send **one copy** by e-mail to the Reviews editor:

Dr. Adrian Holliday
Professor of Applied Linguistics
Department of Language Studies
Canterbury Christ Church University College
Canterbury CT1 1QU, UK
Phone: 00 44 1227 782700
E-mail: Tesol_Quarterly@baruch.cuny.edu

Review Articles. *TESOL Quarterly* also welcomes review articles, that is, comparative discussions of several publications that fall into a topical category (e.g., pronunciation, literacy training, teaching methodology).

Review articles should provide a description and evaluative comparison of the materials and discuss the relative significance of the works in the context of current theory and practice. Reviewers are encouraged to query the Reviews editor, Adrian Holliday, concerning their books of interest before writing the review. Submissions should comprise no more than 2,500 words. Submit **two copies** of the review article to the Reviews editor at the address given above.

Brief Reports and Summaries. *TESOL Quarterly* also invites short reports on any aspect of TESOL theory and practice. We encourage manuscripts that either present preliminary findings or focus on some aspect of a larger study. In all cases, the discussion of issues should be supported by empirical evidence, collected through qualitative or quantitative investigations. Reports or summaries should present key concepts and results in a manner that will make the research accessible to our diverse readership. Submissions to this section should be 7–10 double-spaced pages, or 3,400 words (including references, notes, and tables). If possible, indicate the number of words at the end of the report. *Longer articles do not appear in this section and should be submitted to the Editor of* TESOL Quarterly *for review.* Send **one copy** of the manuscript each to:

John Flowerdew
City University of Hong Kong
83 Tat Chee Avenue
Kowloon
Hong Kong SAR China

Paula Golombek
305 Sparks Building
Pennsylvania State University
University Park, PA 16802 USA

Forum. *TESOL Quarterly* welcomes comments and responses from readers regarding specific aspects or practices of the profession. Responses to published articles and reviews are also welcome; unfortunately, we are not able to publish responses to previous exchanges. Contributions to the Forum should generally be no longer than 7–10 double-spaced pages or 3,400 words. If possible, indicate the number of words at the end of the contribution. Submit **three copies** to the *TESOL Quarterly* editor at the address given for full-length articles.

Brief discussions of qualitative and quantitative **Research Issues** and of **Teaching Issues** are also published in the Forum. Although these contributions are typically solicited, readers may send topic suggestions or make known their availability as contributors by writing directly to the editors of these subsections.

Research Issues:

Patricia A. Duff
Department of Language and Literacy Education
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Special-Topic Issues. Typically, one issue per volume will be devoted to a special topic. Topics are approved by the *Quarterly*'s Editorial Advisory Board. Those wishing to suggest topics or make known their availability as guest editors should contact the editor of *TESOL Quarterly*. Issues will generally contain both invited articles designed to survey and illuminate central themes as well as articles solicited through a call for papers.

General Submission Guidelines

1. All submissions to the *Quarterly* should conform to the requirements of the *Publication Manual of the American Psychological Association* (5th ed.), which can be obtained from the American Psychological Association, Book Order Department, Dept. KK, P.O. Box 92984, Washington, DC 20090-2984 USA. Orders from the United Kingdom, Europe, Africa, or the Middle East should be sent to American Psychological Association, Dept. KK, 3 Henrietta Street, Covent Garden, London, WC2E 8LU, England. For more information, e-mail order@apa.org or consult http://www.apa.org/books/ordering.html.
2. All submissions to *TESOL Quarterly* should be accompanied by a cover letter that includes a full mailing address and both a daytime and an evening telephone number. Where available, authors should include an e-mail address and a fax number.
3. Authors of full-length articles, Brief Reports and Summaries, and Forum contributions should include **two copies** of a very brief biographical statement (in sentence form, maximum 50 words), plus any special notations or acknowledgments that they would like to have included. Double spacing should be used throughout.
4. *TESOL Quarterly* provides 25 free reprints of published full-length articles and 10 reprints of material published in the Reviews, Brief Reports and Summaries, and Forum sections.
5. Manuscripts submitted to *TESOL Quarterly* cannot be returned to authors. Authors should keep a copy for themselves.
6. It is understood that manuscripts submitted to *TESOL Quarterly* have not been previously published and are not under consideration for publication elsewhere.
7. It is the responsibility of the author(s) of a manuscript submitted to *TESOL Quarterly* to indicate to the editor the existence of any work already published (or under consideration for publication elsewhere) by the author(s) that is similar in content to that of the manuscript.
8. The editor of *TESOL Quarterly* reserves the right to make editorial changes in any manuscript accepted for publication to enhance clarity or style. The author will be consulted only if the editing has been substantial.
9. The editor's decisions are final.

10. The views expressed by contributors to *TESOL Quarterly* do not necessarily reflect those of the editor, the Editorial Advisory Board, or TESOL. Material published in the *Quarterly* should not be construed to have the endorsement of TESOL.

Informed Consent Guidelines

TESOL Quarterly expects authors to adhere to ethical and legal standards for work with human subjects. Although TESOL is aware that such standards vary among institutions and countries, TESOL requires authors and contributors to meet, as a minimum, the conditions detailed below before submitting a manuscript for review. TESOL recognizes that some institutions may require research proposals to satisfy additional requirements. If you wish to discuss whether or how your study meets these guidelines, you may e-mail the managing editor of TESOL publications at tq@tesol.org or call 703-535-7852.

As an author, you will be asked to sign a statement indicating that you have complied with Option A or Option B before TESOL will publish your work.

A. You have followed the human subjects review procedure established by your institution.

B. If you are not bound by an institutional review process, or if it does not meet the requirements outlined below, you have complied with the following conditions.

Participation in the Research

1. You have informed participants in your study, sample, class, group, or program that you will be conducting research in which they will be the participants or that you would like to write about them for publication.
2. You have given each participant a clear statement of the purpose of your research or the basic outline of what you would like to explore in writing, making it clear that research and writing are dynamic activities that may shift in focus as they occur.
3. You have explained the procedure you will follow in the research project or the types of information you will be collecting for your writing.
4. You have explained that participation is voluntary, that there is no penalty for refusing to participate, and that the participants may withdraw at any time without penalty.
5. You have explained to participants if and how their confidentiality will be protected.
6. You have given participants sufficient contact information that they can reach you for answers to questions regarding the research.
7. You have explained to participants any foreseeable risks and discomforts involved in agreeing to cooperate (e.g., seeing work with errors in print).

8. You have explained to participants any possible direct benefits of participating (e.g., receiving a copy of the article or chapter).
9. You have obtained from each participant (or from the participant's parent or guardian) a signed consent form that sets out the terms of your agreement with the participants and have kept these forms on file (TESOL will not ask to see them).

Consent to Publish Student Work

10. If you will be collecting samples of student work with the intention of publishing them, either anonymously or with attribution, you have made that clear to the participants in writing.
11. If the sample of student work (e.g., a signed drawing or signed piece of writing) will be published with the student's real name visible, you have obtained a signed consent form and will include that form when you submit your manuscript for review and editing (see http://www.tesol.org/pubs/author/consent.html for samples).
12. If your research or writing involves minors (persons under age 18), you have supplied and obtained signed separate informed consent forms from the parent or guardian and from the minor, if he or she is old enough to read, understand, and sign the form.
13. If you are working with participants who do not speak English well or are intellectually disabled, you have written the consent forms in a language that the participant or the participant's guardian can understand.

GUIDELINES FOR QUANTITATIVE AND QUALITATIVE RESEARCH

Because of the importance of substantive findings reported in *TESOL Quarterly,* in addition to the role that the *Quarterly* plays in modeling research in the field, articles must meet high standards in reporting research. To support this goal, the Spring 2003 issue of *TESOL Quarterly* (Vol. 37, No. 1) contains guidelines (pp. 157–178) for reporting quantitative research and three types of qualitative research: case studies, conversation analysis, and (critical) ethnography. Each set of guidelines contains an explanation of the expectations for research articles within a particular tradition and provides references for additional guidance. The guidelines are also published on TESOL's Web site (http://www.tesol.org/pubs/author/serials/tqguides.html).