

# The Effect of Non-Native Accents on English Comprehension

Dr. Maya Bazhouni

(Department of English Language / Lebanese University, Lebanon)

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**Abstract:** *The primary purpose of the present investigation was to examine the influence of non-native English speakers' accents on listening comprehension. The paper followed a thematic synthesis review that involves the development of structured summaries of studies to elaborate on and contextualize the extracted information. The sixteen publications selected for review included five quantitative, one integrative appraisal, and ten that employed experiments. The qualitative synthesis resulted in the identification of three thematic areas, which are considered as the approaches through which non-native accents can shape English comprehension. These encompass the perceptions of the native English speakers towards non-native English accented speakers, prosodic qualities of the language, and the foreign-accented English speaker's speech rate. The findings of the review suggest that the exclusion of the diversity of English in ESL listening tests is likely to disadvantage test takers of non-native English backgrounds.*

**Keywords:** *accents, non-native accents, native, listeners, perceptions, comprehension.*

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## I. Introduction

### Background Information

With the expanding use of English in most countries across the globe, English is presently utilized by a significantly more non-natives than native English speakers (Abeywickrama, 2013 [1]). Consequently, the landscape of the English language has transformed remarkably in recent decades (Seidlhofer, 2004 [2]). Irrespective of the aforementioned alterations, the variety of English that is espoused in numerous target language use (TLU) realms encompass English spoken by English Second Language (ESL) speakers (Abeywickrama, 2013 [1]). Existing pieces of the literature suggest that in the context of international or local language use, the English is not narrowed down to one overriding type. However, available testing activities do not take into account the English use scenario; instead, the diversity of English applied remains the native variety (Canagarajah, 2006 [3]; Abeywickrama, 2013 [1]). The International English Language Testing System (IELTS), which is the benchmark listening exam in most Western nations is based on the American, Australian, and the United Kingdom's accents, whereas the oral queries and teaching resources on the listening segment of the Test of English as a Foreign Language (TOEFL) are grounded on native American English (Abeywickrama, 2013 [1]). In the above cases, test creators utilize samples of language that students would experience in the domains of TLU in judging ESL listening comprehension.

In the field of academics, a scrutiny of the TLU domain shows a wide array of language disparities that students encounter. According to Hayes-Harb, Smith, Bent, and Bradlow (2009) [4], the diversity of English that apprentices come across have been not only those of fellow foreign learners but also non-native teaching assistants and professors. For example, 21% of all teaching assistants in the University of California Los Angeles (UCLA) were non-native English speakers during the 2008-2009 academic year, a significant number were Japanese, Indian, Korean, and Chinese, among others (UCLA, 2009). Similarly, international teaching assistants accounted for 30% of all graduate assistants at Texas Tech University in the 2006-2007 academic year, suggesting a shared scenario in most of the institutions of higher learning in Western economies (Abeywickrama, 2013 [1]). Thus, to restrict test involvement to English First Language (EFL) speaker accent in listening comprehension exams, like IELTS and TOEFL, is a distortion of the use of English in academia in both English native and non-native countries.

### Statement of Problem

With the enhanced globalization process, speakers and listeners from diverse language backgrounds are communicating with increased regularity, and the prevalence of global multilingualism means that such interactions frequently comprise of at least a foreign English speaker (Grey & Van Hell, 2017 [5]). As per Gluszek and Dovidio (2010) [6], non-native accents are among the most salient features of ESL speakers. Bent and Holt (2013) [7] argue that foreign accents for listeners are a problematic instance of inconsistency in the speech signal that is frequently owed to the talker's non-native articulation of words as well as the speech's inflection and rhythm patterns that differ from their native English variety. Reinisch and Weber (2012) [8]

attribute the variability to comprehension and intelligibility difficulties; however, as per a comprehensive review of existing literature by Cristia et al. (2012)[9], listeners can swiftly get used to non-native accented speech and that command of English generally improves over time.

Nonetheless, recent neurocognitive studies that utilized event-related potentials (ERPs) to test EFL listeners' semantic processing when comprehending a sentence compared to ERP impacts on speech in a non-native accent reported that the inconsistent phonetic variability intrinsic to foreign-accented speakers results in diminished lexical activation and mounting dependence on top-down background signals during comprehension (Goslin, Duffy, & Floccia, 2012 [10]). Therefore, from an evaluation standpoint, if a listening comprehension exam is to be reliable, then the presence of the disparate English variabilities in scholarly domains raises concerns regarding the expediency of the aforementioned tests that limit their input to a native speaker variety. Besides, the absence of correspondence will impede the extrapolation of test performance, consequently calling into question the legitimacy of interpretations of the test-takers listening capability (Abeywickrama, 2013 [1]). Therefore, the primary objective of the present investigation is to explore the role of non-native accents in listening comprehension among ESL and native English language (ENL) speakers at the university level.

## II. Methodology

### Research Framework

A thematic synthesis of existing pieces of literature was employed to explore the underlying mechanisms through which non-native English accents shape listening comprehension of ENL and ESL, including TOEFL and IELTS test takers. According to Barnett-Page and Thomas (2009) [11], thematic synthesis is a technique that has proved to be essential in synthesizing empirical findings of quantitative and qualitative investigations in a homogenous approach. Harden et al. (2004)[12] add that, generally, thematic synthesis entails the development of structured summaries of the selected studies to elaborate on and contextualize the extracted information. In addition, unlike other types of reviews such as textual narrative synthesis, thematic synthesis has the potential for generating hypotheses and identifying commonalities or emerging themes.

### Search Strategy

To identify the relevant papers for review in the thematic synthesis, six electronic databases, including JSTOR, MEDLINE, ProQuest, Education Resources Information Center (ERIC), GoogleScholar, and EBSCOHost, were searched for research that attempts to answer the study objective. A combination of the following search terms "foreign English accents," OR "non-native English accents," OR "English Second Language accents" OR "ESL accents," AND "English comprehension," OR "listening comprehension." Alongside the electronic search, manual screening of the reference lists of the chosen articles was performed to identify additional papers. English articles addressing the research objective published between January 2001-31<sup>st</sup> July 2019 were included in the review.

## III. Results

### Characteristics of Selected Articles

Sixteen studies that explored the association between accents and listening comprehension irrespective of the research designs were selected for review. These encompassed five quantitative studies (Souza, Byers-Heinlein, & Poulin-Dubois, 2013[13]; Jenkins, 2002 [14]; Ferguson, Jongman, Sereno, & Keum, 2010 [15]; Kang, Vo, & Moran, 2016 [16]; Kang & Rubin, 2009 [17]) and one integrative review (Derwing & Munro, 2005 [18]). The remaining ten employed experimental frameworks (Dixon, Mahoney, & Cocks, 2002 [19]; Carlson & McHenry, 2006 [20]; Mayer, Sobko, & Mautone, 2003 [21]; Kang, 2012 [22]; Ahn & Moore, 2011 [23]; Major, Fitzmaurice, Bunta, & Balasubramanian, 2002 [24]; Al-Dosari, 2011 [25]; Bruce, To, & Newton, 2012 [26]; Derwing & Munro, 2001[27]; Matsuura, Chiba, Mahoney, & Rilling, 2014 [28]). The synthesis resulted in the emergence of three thematic areas, which are considered as approaches that non-native English accents affect English listening comprehension. These encompass the role of the listeners' perception of the speaker's accent, prosodic features of the language, and the non-native accented speaking speed.

### Summary of Findings

Author(s)	Objective	Method	Findings	Theme
(Souza, Byers-Heinlein, & Poulin-Dubois, 2013 [13])	To explore the social preferences of five-year-old English-French bilinguals and English/French monolinguals	Quantitative study	Surprisingly, both bilingual and monolingual children preferred associating with native-accented speakers	Described the importance of non-native accents, that the latter shaped the listener's attitude to the speaker's comprehensibility
(Carlson & McHenry, 2006)	To explore the influence of a	Experimental study	Individuals with heavy accents were unlikely to be employed in	The authors noted that pronunciation had been

[20])	person's origin, perceived dialect, comprehensibility on employability		firms that are largely populated with ENLs due to their poor comprehensibility	established to affect adults' discernment of an individual's fluency, success, guilt, confidence, intelligence, social status, and competence
(Dixon, Mahoney, & Cocks, 2002 [19])	To compare the perceptions of ENLs towards non-native English accented suspects on the attrition of guilt	Match-guise experiment	ENLs rated foreign English-accented suspects guiltier than native English speaking suspects	Prejudicial evaluations decline the intelligibility of non-native English speakers
(Derwing & Munro, 2005 [18])	To investigate the influence of second language accents on communication.	Literature review	Elements regarding accents can differ between English as an international language (EIL) context and those arising in ESL backgrounds	ESL speakers should not be forced to adapt ENL speakers' norms, but they should fine-tune their speech to fit primarily non-native listeners
(Jenkins, 2002 [14])	To explore the existing phonological norms and classroom articulation frameworks for EIL	Quantitative	English is being comprehended for international communication and not for interaction with its native speakers.	EIL test takers are not foreign English speakers but "international speakers."
(Mayer et al., 2003 [21])	To investigate the influence of the speaker's voice in the development of social signals in multimedia learning	Experimental	Foreign accented speeches are not natural to ENL speakers	Non-native English accents necessitate additional cognitive resources to process the information, which in turn diminish the quality students' listening comprehension experience
(Ahn & Moore, 2011 [23])	To establish the influence of tutors' accents, on students' learning outcome, and the role of the listeners' perceptions towards the instructors' accents in their learning	Experimental study	Students who had previously shown less preference for Asian accents performed poorly when taught by Asian-accented lecturers than learners who had rated Asian-accented tutors favorably.	Accent preferences act as a confounding determinant of students' English comprehension scores,
(Kang, 2012 [22])	To examine the extent that rater's qualities and accent parameters that influence evaluations of English foreign speech.	Experiment	ENL students rated non-native accented teaching assistants as stricter compared to ENL tutors.	Often, ESL instructors undergo a multifaceted and arduous process to master English, they may not be lenient to other non-native speakers' mistakes,
(Kang & Rubin, 2009 [17])	To investigate the influence of the reverse linguistic stereotyping concept on listening comprehension	Quantitative study	Native background factors and their typecasting tendencies were attributed to beyond 20% of disparities in listener's evaluation	Listeners' perception of non-native accents
(Kang, Vo, & Moran, 2016 [16])	To assess how listeners from varied language cultures judged phonetic variables when evaluating foreign English speakers' speech for accentedness, comprehensibility, and intelligibility	Quantitative analysis	Although English listeners conceived accented speech differently than native accents, their worldwide judgments did not vary	Listeners' perception of non-native accents
(Al-Dosari, 2011 [25])	To explore the perception of Saudi Arabia's students towards the English varieties spoken in a multi-lingual setting	Experimental study	Speakers' inflection affects the listeners' attitudes towards the speaker; nevertheless, the standard Indian English was rated more favorably than standard South African Native English speakers on the aspects of competence, comprehensibility, and perceived accent	Listeners' perception of non-native accents
(Major et al., 2002	To determine the	Experimental	Both the ESL and ENL	Apparently, the rhythm of

[24])	performance of ESL and ENL listeners in a listening comprehension exam when the speaker uses their native languages	research	respondents scored poorly on listening comprehension tests when the speaker used non-native English accents. Native Spanish listeners scored highly when the speech was from their corresponding native Spanish speakers.	the Spanish language that facilitated the listening comprehension of Japanese and Chinese listeners
(Bruce et al., 2012 [26])	To compare the comprehension complexity between unaccustomed native accent that varied in segmental qualities, only an unfamiliar foreign accent differing in both prosodic and segmental characteristics.	Experimental research	Speech from non-native accented English speakers influences listening understanding of the language even in simple practices in ideal listening conditions.	The speaker's dialect, particularly pronunciations differing in both prosodic and segmental traits, can serve as an impediment to effective communication between native and non-native English speakers, especially those with aphasia.
(Ferguson et al., 2010 [15])	To examine the influences of non-native accent, listener's age, listening condition, and hearing status on comprehension of English words	Cross-sectional descriptive study	ENL speech was considered more comprehensible than those read by native Spanish speakers irrespective of the background noise condition and age of the listeners' cohorts	Talker-associated accent tends to distort the signal of the speech, which in turn influence the listeners' perception of the comprehensibility of the speech
(Matsuura et al., 2014[28])	To determine whether speech rate influenced listening intelligibility of unfamiliar English varieties	Experimental study	The Japanese participants attained substantially higher average comprehension scores with slowed speaking rate regardless of their competence when listening to the heavily accented speakers.	Non-native (unfamiliar) dialect remarkably decreased the respondents' comprehension of English
(Derwing & Munro, 2001 [27])	To investigate the influence of ESL speaking speed on English comprehension among ENLs	Experimental	Slow speaking speed among non-native accented speakers was judged as less intelligible by ENL listeners	

#### IV. DISCUSSION

##### Importance of Listening in Language Acquisition

Listening skill is considered as the Cinderella of the four macro-proficiencies of language learning, namely: writing, reading, speaking, and listening (Gilakjani & Sabouri, 2016 [29]). As per Nunan (1998) [30], "listening is the basic skill in language learning, without which students will never know how to communicate effectively. In fact, over 50% of the time that students spend functioning in a foreign language will be devoted to listening. (p.1) This implies that effective interaction using English language relies on mastering listening proficiencies. On the other hand, listening comprehension refers to a person's capacity to distinguish a word through sense, aural organs, and assign meaning to the information to understand it (Gilakjani & Sabouri, 2016 [29]). Through an integrative review that sought to explore the listening comprehension challenges experienced by ESL students, Bingol, Mart, Celik, and Yildiz (2014)[31] described listening comprehension as the mechanism of grasping speech by focusing on the role of dialectal units, such as grammatical structures, words, and phonemes, as well as concentrating on the responsibility of audience's expectations, context, and past knowledge. Thus, it is necessary to take into account the significance and the factors that affect listening comprehension, particularly when designing international English tests.

##### The Impact of Non-Native Accent on Listening Comprehension

**The listener's perceived accent shapes the speaker's English comprehension.** As described by Souza, Byers-Heinlein, and Poulin-Dubois (2013) [13], an accent is among the highly explicit linguistic indications that are used in constricting social classes. It refers to the manner in which a certain person or group of people pronounce words. Thus, an accent can sway the listener's perceptions and evaluations about the speakers' features or traits. Carlson and McHenry (2006) [20] add that, undeniably, pronunciation has been established to affect adults' discernment of an individual's fluency, success, guilt, confidence, intelligence, social status, and competence. In an experimental study, Dixon, Mahoney, and Cocks (2002)[19] found that adults judge native

English speakers more positively across the aforementioned personal qualities compared to their non-native accented counterparts.

Recent investigations in the domains of Teaching English to Speakers of Other Languages (TESOL) and linguistics have pursued to examine the role of accent in listening comprehension and the effects of external antecedents, such as familiarity with the non-native accent. For instance, Derwing and Munro (2005)[18] conducted a comprehensive review to establish the influence of second language accents on communication. The findings showed that issues regarding pronunciation could be relatively disparate between English as an international language (EIL) context and those arising in ESL settings. In these authors' standpoint, ESL learners should not be compelled to adapt the native speakers' norms; however, they should fine-tune their speech to fit primarily non-native listeners. According to Jenkins (2002) [14], in the context of EIL, English is being comprehended for the purpose of international communication and not for interaction with its native speakers, and thus, EIL test takers are not foreign English speakers but "international speakers."

In the above light, Jenkins (2002) [14] recommended a lingua franca core for pronunciation teaching that accommodates elements of mutual intelligibility. In Jenkins's (2002) [14] perspective, non-native speakers' phonological concepts that are impossible to engender listening comprehension challenges for other foreign speakers, fall beyond the core. Thus, shared articulacy is the principal concern for ESL learners; nonetheless, the latter should endeavor to make themselves understood to a broad array of talkers within a setting where the second language is the prominent language for interaction, especially where foreigners are the majority.

Existing pieces of the literature suggest that, unlike ENL voices, foreign-accented speeches are not natural to ENL speakers; thus, it necessitates additional cognitive resources to process the information, which in turn diminish the quality students' listening comprehension experience (Mayer et al., 2003 [21]). Ahn and Moore (2011) [23] performed experimental research that sought to explore how tutors' accents shape the students' learning outcome. Second, the investigation examined the role of the listeners' perceptions of the instructors' accents in their learning. Non-native English accents straightforwardly influenced English comprehension scores. The authors asked n=200 university apprentices to fill an attitude survey form that concentrated on accents before conducting a teaching-based evaluation in either heavy German, German, heavy Korean, mild Korean, and native English accents. Even though the outcomes reported no significant difference between the apprentices' academic performance when taught by English-Asian accented and native English instructors, however, students who had previously showed less preference for Asian accents performed poorly when taught by Asian-accented lecturers than learners who had rated Asian-accented tutors favorably. These findings imply that accent preferences act as a confounding determinant of students' English comprehension scores, and therefore, the enclosure of a diversity of English accents in listening stimuli is necessary on the grounds of heightened legitimacy of TOEFL and IELTS exams and more precise representation of the listening paradigm.

In another investigation, Kang (2012)[22] engaged n=70 native English speakers in experimental research that sought to find out the extent that rater's qualities and accent parameters influence evaluations of English foreign speech. The upshots showed that ENL students rated non-native accented teaching assistants as stricter compared to ENL tutors. This suggests that, since ESL instructors have undergone a multifaceted and arduous process to master English, they may not be lenient to other non-native speakers' mistakes, while ENL raters may not be concerned about foreign accents as long as they do not obstruct their listening comprehension. In an earlier study, Kang and Rubin (2009)[17] attributed native background factors and their typecasting tendencies to beyond 20% of disparities in listener's evaluation.

A recent investigation by Kang et al. (2016)[16] examined how n=240 listeners from varied language cultures judged phonetic variables, such as suprasegmental elements like sentence and word stress and segmental characteristics like vowels and consonants, disparately when evaluating foreign English speakers' speech for accentedness, comprehensibility, and intelligibility. The findings indicated that, even though English listeners conceived accented speech differently than native accents, their worldwide judgments did not vary. Nonetheless, Kang et al.'s (2016) [16] study did not encompass a comprehension component. Al-Dosari (2011)[25] engaged n=25 students in experimental research that sought to explore the perception of Saudi Arabia's students towards the English varieties spoken in a multi-lingual setting. The respondents evaluated the perceived comprehensibility and accents of two speakers using a standard Indian English (SIE) and South African native English (SANE), respectively. The outcomes suggested that each talker's inflection affects the listeners' attitudes towards the speaker; nevertheless, the SIE was rated more favorably than the SANE speaker on the aspects of competence, comprehensibility, and perceived accent.

**Prosodic features of the language.** Major et al. (2002)[24] engaged n=100 students, whose native languages were standard American English, Spanish, Japanese, and Chinese, in a listening experiment to determine the performance of ESL and ENL listeners in an exam when the speaker uses their native languages. Both the ESL and ENL respondents scored poorly on listening comprehension tests when the speaker used non-native English accents, with native Spanish listeners scoring highly when the speech was from their corresponding native Spanish speakers. Surprisingly, native Chinese continued to perform poorly even when the

speech was presented in native Chinese language. Major et al. (2002)[24] attributed the disparity to prosodic features of Japanese, Chinese, and Spanish languages, rhythm in particular.

Notably, accurate production of segmental is essential in sounding nativelike. In this view, while English is a stress-timed language, Spanish is a syllable-timed same as Chinese, although the latter is also considered as a tonal language. Nonetheless, it was the rhythm of the Spanish language that facilitated the listening comprehension of Japanese and Chinese listeners; therefore, the mild Spanish accents alongside rhythm of the Spanish speakers vis-à-vis Japanese and Chinese speakers may have resulted in the high scores in listening comprehension exam. The probable impact of rhythm on English comprehension indicates that any provided non-native accent may possess other traits that hinder or aid understanding of speech among listeners from other native languages. Bruce et al. (2012)[26] enlisted n=34 English speakers (including 50% with aphasia) to take part in experimental research that endeavored to determine whether unaccustomed native accent that varied in segmental qualities only was less difficult to comprehend compared to unfamiliar foreign accent differing in both prosodic and segmental characteristics. All the respondents made more mistakes in the latter accent than in native accents, although this challenge was more noticeable for those with aphasia than those without. These findings suggest that speech from non-native accented English speakers influence listening understanding of the language even in simple practices in ideal listening conditions.

In Bruce et al.'s (2012)[26] research, the speaker's dialect, particularly pronunciations differing in both prosodic and segmental traits, can serve as an impediment to effective communication between native and non-native English speakers, especially those with aphasia. This is supported by the findings of Ferguson et al.'s (2010)[15] cross-sectional descriptive study that investigated the impacts of non-native accent, listener's age, listening condition, and hearing status on comprehension of English words. Ferguson et al. (2010) [15] reported that speech from ENL was considered more comprehensible than those read by native Spanish speakers irrespective of the background noise condition and age of the listeners' cohorts. This implies that talker-associated accent tends to distort the signal of the speech, which in turn influence the listeners' perception of the comprehensibility of the speech.

**Speaking rate of non-native English speakers influence English comprehension.** In addition to prosodic deviance, existing pieces of literature have suggested that the speaking rate of non-native English accented speakers influence the listening comprehension ENLs. For instance, Matsuura et al. (2014)[28] engaged n=179 Japanese university apprentices in an experiment that was meant to determine whether the speech rate influenced listening intelligibility of unfamiliar English varieties. The respondents attained substantially higher average comprehension scores with slowed speaking rate regardless of their competence when listening to the heavily accented speakers. On the issue of acquaintance, Matsuura et al. (2014) [28] confirmed that a non-native (unfamiliar) dialect remarkably decreased the respondents' comprehension of English. As observed earlier in Mayer et al.'s (2003) [21] study, English speeches conceived as accented by the listeners may require more cognitive resources for processing, and thus, the heavier the accent, the more the cognitive resources required.

With regards to speaking speed, Matsuura et al. (2014)[28] noted that the slowed rate facilitated the intelligibility of heavy accented English speeches. These findings, however, tend to oppose the outcomes of Derwing and Munro's (2001)[27] experimental research, which observed that reduced speaking speed among non-native accented speakers was judged as less intelligible by ENL listeners. Nonetheless, the divergences between Derwing and Munro's (2001) [27] and Matsuura et al.'s (2014) [28] studies appear largely owed to disparities in the English mastery of the respondents, and variances in English-speaking settings. While the foreign-accented listeners in the Derwing and Munro's (2001) [27] experiment were all graduate students who have lived in Canada for at least 4.7 years and had scored on average 550 on the TOEFL test, the participating listeners in the latter investigation were intermediate/advanced-level EFL apprentices learning in Japan. Besides, while Derwing and Munro used subjective assessments on a scoring scale to evaluate the extent of listeners comprehension of English, Matsuura et al. (2014)[28] utilized listening comprehension tests. From the above analyses, it is clear that diverse English varieties can be included into activities, test, and teaching resources espousing disparate accents to enable students to gain self-assurance when using and listening to the English language.

## V. CONCLUSION

The overriding goal of the current thematic synthesis of available studies was to explore the influence of non-native accents on listening comprehension among ESL and English native language (ENL) speakers at the university level. The qualitative meta-synthesis led to the identification of three mechanisms through which non-native English accents affect English intelligibility. Five studies suggested that native English listeners' perceptions of accented voices negatively shape the comprehensibility of foreign English accents. Notably, the latter calls for extra cognitive resources at the processing stage. In addition, ENL listeners tend to hold prejudicial judgments towards non-native English speakers based on their accents, which cause a kind of mental

block with regards to the intelligibility of heavy-accented English voices. Second, the prosodic and segmental characteristics of the foreign-accented English voices, particularly the rhythm, affect listening comprehension. Lastly, the synthesis identified the unfamiliarity and speech speed of the non-native speakers as moderators of English comprehension. Notably, unfamiliar English variety and high speaking rate reduced the listening understanding of the speech by ENL listeners. On the contrary, familiar English accent and slowed foreign-accented speech frequency was correlated with enhanced intelligibility, as the two varieties necessitated no additional cognitive cost to process the information. Thus, the exclusion of the diversity of English in ESL listening tests is likely to disadvantage test takers of non-native English backgrounds.

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