

CAN L2 LEARNERS OF ENGLISH COMPREHEND REGIONAL VARIETIES?

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For a long time, Received Pronunciation (RP) was generally accepted as the easiest British accent to understand. However, this assumption is being increasingly questioned with some studies indicating that RP is not always the most intelligible for non-native (L2) learners of English (Fraser Gupta, 2005; Ikeno & Hansen, 2007). In 2009, an experiment carried out on 2 groups of French learners of English, showed that understanding various British and Irish accents is difficult for L2 learners of English (Edensor, 2010). The experiment was replicated in 2019 to determine if comprehension had improved. Both studies found the Cardiff accent to be the most intelligible and the accents were understood in a similar order. The results from 2019 revealed that comprehension of these accents had improved but that some accents remain difficult to process and understand.

Cite as: Edensor-Costille, K. (2022). Can L2 learners of English comprehend regional varieties? In J. Levis & A. Guskaroska (eds.), *Proceedings of the 12th Pronunciation in Second Language Learning and Teaching Conference*, held June 2021 virtually at Brock University, St. Catharines, ON. <https://doi.org/10.31274/psllt.13268>

INTRODUCTION

Traditionally, the teaching of British English as a second language has been centered around Received Pronunciation (RP), with learners of English rarely exposed to other accents. It was generally accepted that non-native learners understand the standard accent more easily than other regional, ethnic or even international accents. Several studies have questioned the status of RP as a model, partly because the changes it has undergone are not always reflected in teaching, but also due to the difficulty for non-natives to comprehend or acquire it (Abercrombie, 1956; Foulkes & Docherty, 1999; Jenkins, 2000; Wells, 1982). Wells (1982) suggests that learners use certain features from other varieties deemed easier to pronounce (e.g., use of /l/ vocalization, instead of [ɫ] or dark L). Other linguists have advocated using another accent as a reference model (Abercrombie, 1956) or to simply focus on properties essential for comprehension (Jenkins, 2000).

Attitudes towards regional varieties have also been progressively changing, be it towards regional accents in the UK – for example, an increasing number of non-RP speakers heard in the media - or a general shift towards the acceptance of other accents of English in French universities (Glain, 2020). For example, it is no longer a prerequisite for French learners of English training to become teachers to aim for an RP accent.

Perception and Comprehension

Learning how variation in speech is perceived and comprehended is necessary to understand the process of L2 speech perception. The way listeners deal with less familiar accents can provide a more general understanding of perception as a cognitive process. Several studies have examined how non-natives adapt to certain sources of variability, but for many years, research on non-natives' speech perception focused on the perception of their accent by natives. Bradlow and Pisoni (1998) found that L2 listeners were not more susceptible to speaker variability effects than L1 listeners and L2 listeners even performed better than native listeners on intelligibility tasks involving L2 speech. However, L2 learners may encounter difficulties when confronted with strongly accented speech

(Bent & Bradlow, 2003) which can be less intelligible than speech from one's own dialect or accent group. These researchers explain that listeners who have the same native language all have the same "interlanguage" (p. 1600) in an L2. It is because of their specific interlanguage that they find certain features of accent more (or less) intelligible compared to other non-natives with a different native language.

Comprehending and processing accented speech

One of the first studies to evaluate the intelligibility of RP asked listeners from Singapore and Britain to orthographically transcribe English spoken by a "near RP" (Wells, 1982, p. 279) speaker and a Singaporean speaker (Fraser Gupta, 2005). The results confirmed that it is easier to understand a familiar accent, i.e., when the listener heard their own accent. Comprehending an unfamiliar accent led to mixed results, some listeners being more skilled than others.

Another study examined the comprehension of 3 accents: Cambridge, Cardiff and Belfast from the IViE corpus (Intonational Variation in English), by 3 groups of listeners (Ikeno & Hansen, 2007). The first was a mixed group of non-natives with various L1s (Chinese, Croatian, German, and Japanese), the other 2 groups were native speakers: 1 British and 1 American. It was concluded that overall transcription accuracy is affected by the listeners' nativeness. The L2 listeners correctly transcribed 48% of what they heard, compared to 78% for the British group and 82% by the Americans. The Cardiff accent was the most comprehensible for the L2 group (58%), followed by the Cambridge accent (44%) whereas the native groups understood over 80% of the Cambridge and Cardiff accents. In 2010, Edensor showed similar results. A recent study that tested 12 native Chinese listeners on speech-in-noise recognition of 13 different accents (Pinet et al., 2019) concluded that the standard accents (RP and General American) were the most intelligible. However, a Welsh English variety was not included in the study.

Research on L2 accent adaptation indicates that processing costs should eventually decrease after exposure to the accent has been sufficient to allow for complete adaptation (Clark and Garrett, 2004; Munro & Derwing, 1995). There is normally a processing cost in spoken word recognition, but it is possible to adapt after several sentences. Adaptation results from the combined action of two mechanisms. First, a short-term adjustment to local speech parameters, followed by a long-term learning process where phonological and lexical information are encoded. However, full accent adaptation is not always ensured (Clark & Garrett, 2004). According to Dupoux and Green (1997), this mechanism is similar for a regional or foreign accent.

Clarke and Garrett (2004) advance that accents can be ranked on a perceptual scale according to their acoustic distance from the native language. Non-native accents are at one end, standard accents are at the other, and regional accents are somewhere in the middle. This implies that the same processes are used for both accented and non-accented speech and the extent of accent-related processing effects simply reflect the accents' distance from the native language or accent. Other research has reached similar conclusions observing that when the listener hears speech which is considerably different from their own category prototypes, the listener must work harder to decode the message and it may take longer (Evans and Iverson, 2004; Larraza & Best, 2018). Cutler (2000) suggests that using intensive listening training to decrease the influence of the L1 on L2 processing is beneficial to L2 learners. Most linguists concur that extensive L2 experience i.e., being exposed to and using

an L2, can improve the ability to perceive the differences between L1 and L2, therefore improving both production and perception (Best, 1995; Best & Strange, 1992; Flege, 1995).

Floccia et al. (2006) suggest that familiarity with a regional accent determines sentence processing, not specific accent features. When it comes to an unfamiliar accent, we are dealing with degrees of skill of the listener, with some listeners simply more capable of mapping unfamiliar varieties onto their phonology to comprehend the intended message. According to Rost (1990, p. 129), “the listener does not receive meaning, but rather constructs meaning.” The listener must update their cognitive representation as the speaker talks even if their understanding is flawed or incomplete.

Bond (2005) explains that “slips of the ear” (p. 298) between natives of different dialects, or when listening to an L2 accent, are often due to connected speech phenomena. She states that misperceptions can take two forms: the listeners perceive the phonetic detail correctly but retrieve something other than the original utterance or listeners compensate incorrectly or over-compensate because of the speaker's accent characteristics.

Research Questions

For native listeners, linguistic variation due to regional accents is perceived and generally understood in everyday language situations but what happens when the listener is non-native? Can they deal with the variation and comprehend regional varieties? The main aim of the experiment was to evaluate L2 learners' comprehension of nine regional English accents. We expect those who have studied English longer to understand these accents better than less-experienced participants. It is expected that the Cambridge accent will be the most comprehensible for two reasons; firstly, it is the variety phonologically closest to the RP accent, and secondly, RP is the variety with which L2 learners in France are *a priori*, the most familiar.

METHODS EXPERIMENT 1 (2009)

Stimuli and Procedure

The read passage of the Cinderella story from the IViE corpus was used for this experiment. It was segmented into short (4-9 syllables), medium (10-14 syllables) and long utterances (15-24 syllables). 1 speaker was chosen from each of the following accents: **C**ambridge (near RP), London (**J**amaican bilinguals), Liverpool (**S**), Leeds (**L**), Bradford (**P**unjabli bilinguals), Cardiff (**W**elsh bilinguals), Newcastle (**N**), Belfast (**B**) and Malahide (**M**). The initials of each accent (in bold) correspond to the abbreviations indicated in the IViE corpus and to the graphs below.

Three sentences were selected for each accent. The volume of the recordings was harmonised at no higher than 70 decibels. Each participant completed a questionnaire giving information on their general background, and their habits and uses of English.

The experiment was carried out in Lancelot in Perceval (a Computer-Driven System for Experimentation on Auditory and Visual Perception) as it enables participants to progress at their own pace. The subjects were asked to orthographically transcribe the 27 utterances and could listen to each a maximum of four times. The listeners never heard the same speaker or accent consecutively.

Participants

Two groups participated in this experiment. The first (Grp1_09) was made up of 19 undergraduates enrolled in a BA of English. Their average age was 20 years old and they had studied English for 9.1 years (average). The second (Grp2_09), was composed of six graduates whose average age was 26.6 years old and who had studied English for 12.8 years (average).

RESULTS

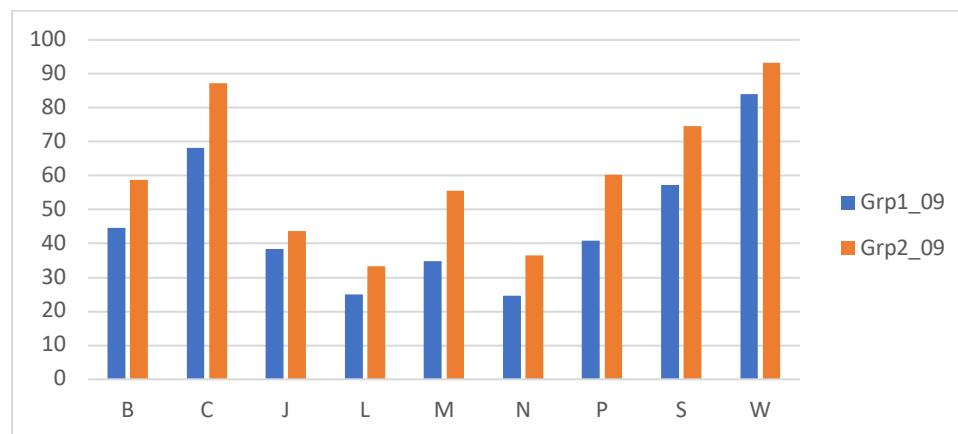
Following guidelines set out in previous studies (Fraser Gupta, 2005; Ikeno & Hansen, 2007), the number of correctly transcribed words was counted, giving a total out of 260 words. There was no penalty for the insertion of words nor for spelling mistakes; compounds and contractions were classed as two words. As can be seen in Figure 1, comprehension was heavily impeded by the variation in speech, but variations in comprehension depended on the accent. The overall percentage of comprehension was 46.74% for Grp1_09 and 60.90% for Grp2_09.

The results show that the number of correctly transcribed words was highest in the Cardiff (W) accent for both: Grp1_09 - 84.05% and Grp2_09 - 93.23%. For the Cambridge (C) accent, correct transcription rates for Grp1_09 were 68.25%, with Grp2_09 correctly transcribing more words: 87.22%. The Liverpool (S) accent was the third most successfully comprehended accent by both groups: 57.26% (Grp1_09) and 74.67% (Grp2_09).

For London (J), Newcastle (N) and Leeds (L) the level of comprehension was less than 50. Newcastle and Leeds had the lowest scores in both groups: for Grp1_09: (N) - 24.67%; (L) - 25.09% Grp2_09 did slightly better: (N) - 36.46%; (L) - 33.33%. Grp2_09 generally performed better than Grp1_09. For Grp1_09, levels of comprehension were lower than 50% in six out of nine accents. For Grp1_09, 3 accents (in order: P, J, M) were understood 40% or less of the time and comprehension fell below 30% when listening to the Leeds and Newcastle accents.

Figure 1

Percentage of words correctly transcribed in 2009 by Grp1_09 and Grp2_09



METHODS - EXPERIMENT 2 (2019)

Stimuli and Procedure

In 2019, we replicated the same experiment to evaluate comprehension of these nine accents. The only element that changed were the participants.

Participants

There were two groups of learners of English: one group of 12 French undergraduates (Grp1_19) and a group of 8 graduates (Grp2_19). None reported having hearing impairments.

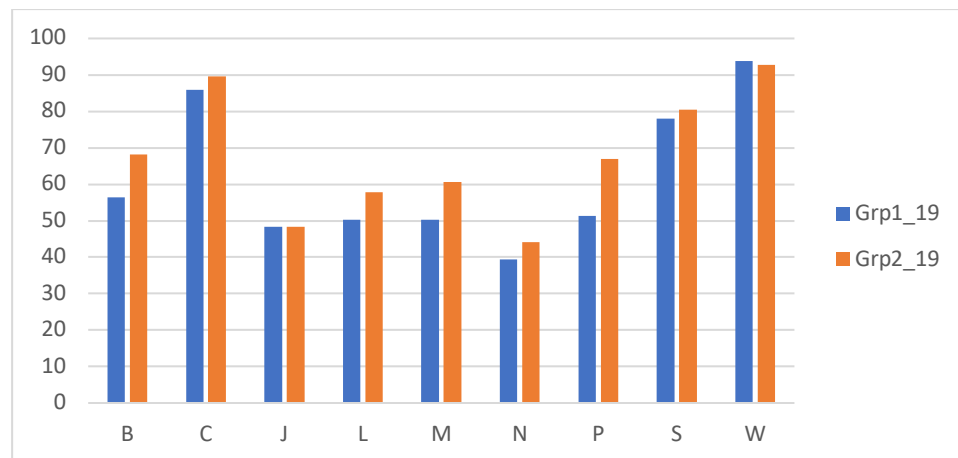
The average age for Grp1_19 was 21.2 years old; they had on average, studied English for 12.8 years. For Grp2_19, the average age was 25.3 years old and average years spent studying was 13.2.

RESULTS

Grp1_19 correctly transcribed 61.70% of all words and Grp2_19 - 67.86%. Figure 2 shows that comprehension levels are accent-dependent. There was a large disparity between accents. The Cardiff (W) accent was the best comprehended: in Grp1_19, 93.75% of the words were correctly transcribed and 92.71% in Grp2_19. The second most understood accent was Cambridge: Grp2_19 understood 89.63% and Grp1_19 - 85.83%. The accent with the third highest comprehension scores was Liverpool: Grp1_19 - 78% and Grp2_19 - 80.44%. as can be seen, both groups had similar comprehension levels. Only two accents (J and N) were understood at less than 50%. When listening to the Newcastle accent, Grp2_19 comprehended slightly more words (44.1%) than Grp1_19 (39.32), making it the least comprehensible.

Figure 2

Percentage of words correctly transcribed in 2019 by Grp1_19 and Grp2_19



DISCUSSION

The aim of this study was to assess non-native listeners' capacity to comprehend British and Irish accents, to determine if comprehension has improved since 2009 and if experience impacts levels of comprehension. The first experiment (Edensor, 2009) revealed that accent variation could greatly impede comprehension— especially for Grp1_09 who globally comprehended less than 1 out of 2 words

(46.74%) compared with 60.90% for Grp2_09. In comparison, the levels of comprehension in 2019 had improved greatly with Grp2_19 generally transcribed more words correctly (67.86%) than Grp1_19 (61.70%). This confirms the result found in 2009, which suggests that the graduates – who studied for a longer period and had more experience with English in general – were better equipped to deal with variation than the undergraduates. This result suggests that experience (through years of study) facilitates processing of regional accents in an L2, validating the established link between language experience and proficiency in L2 perception (Best, 1995; Best & Strange, 1992; Flege, 1995). Nevertheless, the comprehension levels were low in many accents, particularly for Grp1_09, showing that it is not always possible to compensate for variation in regionally accented speech (Bond, 2005; Clark and Garrett, 2004). In both 2009 and 2019, the most comprehended accent (Cardiff) was not one with which the participants were familiar. This is consistent with previous results that used the same corpus (Ikeno & Hansen, 2007).

One explanation for the comprehension of Cardiff accents could be linked to rhythm. The Welsh accent in English, just like the Welsh language, is said to be syllable timed rather than stressed timed. Research has shown that an L2 is processed in terms of category prototypes of the L1 (Clarke & Garrett, 2004, Larraza & Best, 2018). For L2 learners whose L1 is also syllable timed, it may be easier to perceive and comprehend a language or accent which is rhythmically closer to their L1.

In addition, the speaker from Cardiff had quite slow and careful speech with fewer connected speech features. Bond (2005) found that most slips of the ear are due to connected speech phenomena causing listeners to compensate inaccurately, as was found in 2009. Most French listeners misperceived the same segments and words and proposed the same orthographic transcription. For example, *and her* was perceived as *under*. Connected speech features were less problematic in 2019 where the listeners' capacity to segment the stream of speech correctly and comprehend weak forms improved.

The Cambridge accent (near RP) was well understood in both experiments. However, it was expected to be the most comprehensible, such as it is presented in the EFL literature. Moreover, this is the reference accent taught in French universities, making it the variety with which participants were thought to be the most familiar (Floccia et al., 2006). However, this result could simply mean that French learners of English are not as familiar with RP as initially believed.

Of the nine accents, Liverpool was the third most understood variety by all participants. Many listeners correctly comprehended characteristic pronunciations such as *recognise* ['rɛxənaɪz], thus showing that L2 learners can process certain elements of regional varieties. As with the Cardiff accent, the factor of familiarity – or lack of it, does not explain comprehension levels of French learners of English. This result is in contrast with research on accent adaptation which often claims that listeners can process a familiar accent better than an unfamiliar one (Floccia et al., 2006).

As for the other accents, the results from 2009 showed that it was difficult to talk about comprehension, particularly with less experienced learners. It appeared that the listeners did not understand very much. This conclusion is consistent with previous research which indicates that some listeners are more skilled than others (Fraser Gupta, 2005) and less able to construct meaning when too many words were not decoded successfully (Rost, 1990) In 2019, comprehension levels had become higher, and listeners were more able to process variation.

In 2009 and in 2019, the nine accents were understood in the exact same order: W, C, S, B, P, M, L, J, N. In short, the first 3 accents are in the same (W, C, S) and Newcastle is always the least comprehensible. The identical order indicates that these accents are being processed through the same mechanisms despite the higher comprehension levels in 2019. First, it suggests that the accents are being perceived via the L1 and that some accents are perceived as being acoustically closer to the L1 (Clarke & Garrett, 2004). For accents with high comprehension levels, there is little processing cost and adaptation takes place easily but for other accents, processing costs were too great for adaptation to occur and for the spoken message to be easily retrieved (Clarke & Garret, 2004; Dupoux & Green, 1997). Second, this result would confirm that all participants have the same interlanguage (Bent and Bradlow, 2003) because they have the same L1; consequently, the participants processed the accents in the same way, finding the same accents to be either intelligible, difficult or near impossible to understand.

As to limitations, it could be argued that only three utterances per accent was insufficient for adaptation to take place or that regrouping the stimuli by accent would have allowed for better adaptation. It is also possible that certain accents were either too unfamiliar (Bent & Bradlow, 2003) or too far from the L1 categories (Larraza & Best, 2018), and even with more stimuli, adaptation would not occur as quickly. Through this comparison we have shown that many regional accents of English are understood with difficulty but that similar students showed improvements in comprehension when the study was replicated 10 years later.

ABOUT THE AUTHOR

Kizzi Edensor-Costille is a senior lecturer at the University of Caen, Normandy, where she has been teaching in the Department of English and Language Sciences since 2011. Prior to her current position, she was a lecturer and a Teaching Assistant in English phonetics at the University of Provence. She studied for her Ph.D. at the Laboratoire Parole et Langage (LPL) in Aix-en-Provence and specialised in regional accents in the UK and Ireland. Her thesis also gave rise to an interest in English L2, particularly in the areas of teaching and learning English pronunciation, perception and computer assisted language learning (CALL). She teaches oral expression and pronunciation, phonology & phonetics and perception.

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