PERCEPTION OF THE ENGLISH SPEECH OF UKRAINIANS BY NON-NATIVE SPEAKERS

Abstract
The article presents the results of the research on the English speech of Ukrainians and its perception by non-native speakers of English. The focus is on the phenomenon of the foreign accented speech and the claim that due to interference of two or more language systems in the consciousness of the speaker, the speech, which is produced and is the result of long-term mastering of the foreign language, is imbued with a foreign accent. A foreign accent is a language learner’s speech characteristic. It has certain features on segmental and suprasegmental levels which distinguish it from the speech of the native speaker, marking its owner as a ‘foreigner’. These features are studied in order to improve further learning of the language and help learners to avoid potential mistakes that impede their communication and forge a negative image in the eye of a listener. To study the perception of foreign speech three main dimensions are singled out: degree of foreign accent, or degree of accentedness, speech comprehensibility and speech intelligibility. The degree of accentedness measures the level of the foreign accent of the speaker by the listener, which ranges from a slight accent to a strong accent. Comprehensibility measures whether the message is understood as a whole, whereas intelligibility is responsible for the recognition of specific words or phrases. Following these criteria, the speech of ten Ukrainians is analyzed by 47 non-native speakers of English. It is concluded that the lower the rate of an accent is, the higher the comprehensibility of the message gets. Although some instances of a strong accent and high comprehensibility are encountered too.

Keywords: speech perception, foreign accent, degree of accentedness, comprehensibility, intelligibility.

PERCEPCIÓ DE LA LLENGUA ANGLÈS DE LES UCRANIANES PER PARLANTS NO NATURALS

Resum
Aquest article presenta els resultats dels estudis sobre el discurs anglès de les ucraïneses i la seva percepció per parlants no natius de l'anglès. El foc és a l'fenomen del discurs accedat i la tesi de que, a causa de l'interferència de dos o més sistemes llengüístics a la consciència del parlant, el discurs que es produeix i és el resultat del llarg període de domini de la llengua estrangera, està impregnat d'un accent estrangera. Un accent estrangera és una característica discursiva dels aprenentjos de llengua. Presenta certes característiques a nivell segmental i suprasegmental que el distingeix del discurs del parlant natiu, marquen el propietari com a ‘estranger’. Aquestes característiques són estudiate per millorar el aprendizaje ulterior de la llengua i ajudar als aprenentjos a evitar errors potencials que obstrueixen la seva comunicació i ensenyen una imatge negativa a l'ocar de l'escucha. Per estudiar la percepció del discurs estranger s'aplicen tres dimensions principals: grau d'accent estranger, o grau d'accentuat, comprehensibilitat i intelligibilitat. El grau d'accentuat mesura el nivell de l'accent estranger del parlant per l'escucha, que varia del petit accent a un accent estranger fort. La comprehensibilitat mesura si es compren el missatge com un tout, mentre que l'intelligibilitat és responsable per la recerca de manes o phrases específiques. Seguint aquestes criteus, el discurs de d'Ucraïneses es analitza per 47 parlants no natius de l'anglès. Es conclou que el menor el ritme d'un accent és, el més alta la comprehensibilitat del missatge es geta. A més de casos determinats d'un accent estranger fort i alta comprehensibilitat també es troben.

Clefs: percepció del discurs, accent estranger, grau d'accentuat, comprehensibilitat, intelligibilitat.
1. Introduction

A language is a tool for people from different cultures and various social backgrounds to exchange information and share experience. By learning a language an individual comprehends not only grammatical structures and lexical units, but also the culture and the traditions of the nation of the studied language. The experience of acquiring a new language can be both pleasant and unpleasant. The latter is the result of both the difficulty of the language learning process and the perception of the speaker by those who mastered the language prior or is a native speaker of a language. The judgements for the non-native speakers might be harsh and the cause is foreign accent.

An accent is a distinctive characteristic of any speaker which indicates his/her gender, age, educational and social background, job positions, etc. Crystal states that in linguistics the accent “refers to pronunciation only” (2008, p. 3). Roach defines the term as “a particular way of pronouncing” (2011, p. 1). Both researchers emphasize that grammar and vocabulary are not considered valid points when defining an accent as they are essentials of a dialect, “a variety of a language that differs from other varieties in grammar and/or vocabulary” (ibid.). On the grounds that an accent belongs to the domain of pronunciation, Moyer describes it as “a set of dynamic segmental and suprasegmental habits that convey linguistic meaning along with social and situational affiliation” (2013). In Ukrainian research a foreign accent is viewed as a marker of the speaker’s ethnicity, which identifies his/her affinity with a certain linguistic culture since a deviation from the normative pronunciation in his/her speech defines him/her as a representative of a foreign linguistic culture (Banirypa, 2017). Deviations from the norm in the speech of non-native speakers persist to play a considerable role in English as foreign language research. They are closely connected with speech intelligibility and comprehensibility (Valigura et al., 2020) which are major dimensions for the discussed research.

Numerous kinds of research are conducted to measure the perception of foreign accented speech. It is believed that the reactions of the listeners “result from implicit bias” on their part, meaning when a person speaks he/she “triggers stereotypes about the ethnic or racial origin” and this information consciously or subconsciously influences the perception of the foreign speech and constructs judgements on the listener’s part (Thomson & Isaacs, 2022, p. 27). Moreover, a negative attitude towards an accent, in general, is responsible for the high rate of the foreign accented speech (Bruce et al., 2012), especially when native speakers are to judge non-native speech (Munro & Derwing, 1995).

The main objective of the research is to analyze the perception of the English speech of Ukrainians to find the correlation between the nature of the deviations from the norm (RP) and the level of foreign accent judged by non-native speakers. The research is aimed to define which phonetic features are prominent when measuring comprehensibility, intelligibility and degree of foreign speech of a speaker of the Ukrainian origin. The topic of Ukrainians’ foreign accent in English is in high demand among modern scholars today (O. R. Valigura, A. A. Kalyta, A. V. Varlakova, A. G. Kyrychenko, V. Yu. Kochubei, etc.). The results of the research will help to improve the level of language preparation in educational institutions and ensure a better integration of Ukrainian people in the world society.

2. Literature overview

The powerful dimensions that influence and define the perception of the foreign accented speech are comprehensibility, intelligibility and degree of foreign accent, or degree of accentedness. They are vital to understand the L2 speech covering the pronunciation of a speaker, “the extent to which a speaker’s message is actually understood by a listener” (Munro & Derwing, 1995, p. 76), and “the ease with which listeners understand the speaker” (Levis & Silpachai, 2022, p. 162).
Comprehensibility is “the perceived ease of global-level understanding for an entire utterance or a passage” (Moyer, 2013, p. 93), in other words, it is about the ability of a listener to understand a speaker’s message and whether it is done without noticeable efforts or it involves some actions from the listener (e.g. earlier knowledge of the topic of conversation or familiarity with the speaker’s native language, etc.) (Derwing, 2018; Kennedy & Trofimovich, 2008). Thomson, citing the work of I. A. Jukowska and J. Cebrian “Effects of listener factors and stimulus properties on the intelligibility, comprehensibility and accentedness of L2 speech” (2015), states that comprehensibility “is concerned with listeners’ impressionistic observation of how easy it is to understand the L2 speech utterance” (2018, p. 9). Comprehensibility can be summarized as the difficulty in understanding either a separate utterance, or a whole text, or a message, but not separate words (Munro et al., 2006). Thus, as opposed to intelligibility, individual words (or not all the words of the speech) might not be understood by the listener, but the speech is still to be regarded as comprehensible if the listener comprehends the general meaning of the message.

Comprehensibility is measured by the widely used 9-point Likert scale where 1 corresponds to the speech which is extremely easy to understand and 9 equals the speech which is impossible to understand as a whole. Another method includes a sequence of comprehensive questions which determine the accuracy of the message (Munro & Derwing, 1995).

The next dimension that is used to analyze the perception of foreign accent is intelligibility. It “refers to the extent to which a speaker is understood by an interlocutor” (Levis & Silpachai, 2022, p. 162) or “the extent to which a word or utterance is recognized at the level of finer acoustic-phonetic detail” (Moyer, 2013, p. 93). Intelligibility is aimed to recognize different words or phrases in the flow of the speaker’s speech, or linguistic units pronounced in isolation. Intelligibility is very important for L2 pronunciation speakers, teachers, and researchers because it shows “how much the listener actually understands of the speaker’s intended message” (Derwing, 2018, p. 13); it is the ability to comprehend the denotative meanings of phrases and words in the speech (Munro et al., 2006).

Intelligibility can be assessed following different procedures. One way is a dictation of words or phrases. The listeners are to write down what they hear in the standard orthography of the target language (Bent & Bradlow, 2003; Munro & Derwing, 1997). Another method is to ask comprehensible questions which target key vocabulary (Anderson-Hsieh & Koehler, 1988). Some other procedures include the selection of a picture as the response to a particular situation (Smith & Bisazza, 1982), the choice of the best summary (Perlmutter, 1989), and, similar to estimating comprehensibility, determining truth of the sentences (Munro & Derwing, 1995) (Петрочук, 2021).

The third dimension to measure the foreign speech is the degree of foreign accent (FA), or degree of accentedness. “Accentedness is associated with listeners’ evaluative judgements, which might affect an L2 speaker’s construction of an image about linguistic self-worth and competence, described as language (L2) self-esteem” (Szyszka, 2022, p. 19). It is worth noting that in some cases the accented speech, although fully intelligible, may not be understood or perceived by the listener as non-accented. Some features, related to the speaker or to the listener might be the reason to mark the speech as highly accented (Derwing, 2018).

The degree of the foreign accent can be judged by native or non-native judges (Smith & Bisazza, 1982; Anderson-Hsieh & Koehler, 1988; Perlmutter, 1989; Derwing & Munro, 1997; Kennedy & Trofimovich, 2008; Pellegrino, 2012; Thomson & Isaacs, 2022). In order to measure accentedness the 9-point Likert scale is usually used in the
research. Likert scale is “a psychometric response scale primarily used in questionnaires to obtain participant’s preferences or degree of agreement with a statement or set of statements”. The scale may be used in a vast range of research. The respondents are asked to state their opinion on the matter by choosing the number on the suggested scale (Bertram, 2006, p. 2).

Gonet and Pietron (2013) in their research used a 5-point scale where the highest mark corresponded to the lowest level of irritability of the foreign speech, Pellegrino (2012) in her research to judge Spanish speakers used a 4-point scale, where the highest mark defined the person with the strongest accent. Flege (1988) asked the listeners to evaluate the degree of the foreign accent by moving a lever on a response box over a 10-cm range, thus using the so-called ‘continuous’ scale which was used later by Piske et al. (2001) too. By analyzing the different scales, like a 5-point scale in Bongaerts et al. (1997), or a 3-point scale in Tahta et al. (1981), or a 4-point scale in Pellegrino (2012), or a 6-point scale in Moyer (1999), the researchers concluded that it is unclear “how many scale values were needed to capture listeners’ full range of sensitivity to variations in L2 foreign accent” (Piske et al., 2001, p. 194). Later on, it was stated that a 9-point scale is the most acceptable (Thomson, 2018).

3. Material, methods and procedure of the experiment

In the given research the speech of ten Ukrainian speakers was judged by 47 non-native speakers of English. The listeners were asked to determine the degree of foreign accent and answer the comprehensibility questions about the passage they had heard.

Speakers

The speakers were eight female and two male adults aged 20-30 with good knowledge of the English language and on average period of learning the language of more than ten years (see Figure 1).

How long have you been learning English?

![Figure 1. Period of Learning English](image)

The language level was proven by the free independent testing at the website of the British Council Learn English (https://learnenglish.britishcouncil.org/) and the results are presented in the pie chart (see Figure 2).
Prior to the described experiment, the speakers were provided with an approximately 800-word text that they were supposed to read at the normal speech rate, which according to Cruttenden & Gimson (2008) is four syllables per second, or according to Picheny et al. (1985) equals 100 words per minute. The recordings were analyzed describing dynamic, tonal and temporal features of the speech. Following this, the passages were chosen within the length of a minute for this perception experiment.

**Listeners**

The judges were 47 non-native speakers of English aged 18-60 with the majority (43%) between 30 and 44 years of age. On average, their self-evaluated level of English is Advanced (see Figure 3)
The judges were asked to estimate the degree of accentedness of the ten passages on a 9-point Likert scale, where 1 equalled low accent or no accent at all, and 9 stood for a heavily accented speech. After that, they were asked to listen to the passage again and answer one comprehensive question about each passage relating to the main idea presented in it. The sentences had three variants to choose from: ‘True’ (if the statement agreed with the passage), ‘False’ (if the statement disagreed with the passage), and ‘hard to answer’ (if it was difficult to define the faultlessness of the statement). The latter was introduced in case the speech was highly unintelligible and it would be difficult to define the answer in general.

This part of the experiment was conducted with the help of the website https://www.phonic.ai/, the platform which was designed to construct voice and video surveys, as well as conversation and media analysis.

4. Results and discussion

Firstly, the perception of each speaker was analyzed individually and the results were gathered into the bar charts illustrated below. The correlation between the correct answer to a comprehensive question and the degree of accentedness was investigated and then overall indicators were examined.

The vertical axis in the bar charts stands for the number of people who participated in the research, and the horizontal axis signifies the suggested answers.

The speech of the first speaker had the highest ratings of having a low level of accentedness (71%) which was confirmed by 76% of correct answers to a comprehensive question (see Figure 4). The speech lacked repetitions, all the words were properly pronounced, the pauses were of adequate length and quantity.

The speech of the second speaker was rated as a low accented speech (indicators 1, 2 and 3) by 43% of all the respondents and mild accented speech (indicators 4, 5 and 6) by half of the participants. 74% of non-native speakers answered correctly to the comprehension question, but the total of 16% described the speech as unintelligible, meaning that it was ‘hard to answer’ the question (see Figure 5). The unintelligibility of the speech was due to the weak articulation of bilabial consonants, front and central vowels, incorrect VOT and violations in the length of pauses. The tempo of speech was twice the normal rate for clear speech.
Passage 2

The third speaker was rated mostly as having a mild (43%) and strong (40%) accent, but the accuracy of the answer is 96%, which could be explained by the high number of pauses and low rate of presentation of the passage. None misunderstood the speech (no answer ‘hard to answer’) (see Figure 6).

Passage 3

The fourth speaker was rated to have a slight accent (60%) which corresponded to 80% of correct answers (see Figure 7). Although some words were mispronounced in the passage, a slow rate of speech, constant pauses and prominent usage of emphatic terminal tones enabled the speaker to receive high markings regarding comprehensibility of her speech.

Passage 4
Speaker number five was rated to have a mild accent by most of the respondents (54%) and 80% of the listeners chose the correct answer to the comprehensive task (see Figure 8). The speech was monotonous, there was no distinction between different types of pauses (e.g. at the end of the sentence, or within the sense-group). The frequency of the pauses was exaggerated (e.g. *Environmental groups || like | Friends| of the Earth |*). The repetitions and self-corrections (e.g. *...way of dealing with the problem is to travel by is not to travel by plane...*) were responsible for high ratings in foreign accent dimension.

A quarter of the respondents rated the speech of the sixth speaker as slightly accented (2 points out of 9) which correlated with 90% of the correct answers (see Figure 9). The words were accurately pronounced, the sounds were articulated, the tempo of speech was satisfactory and the pauses were properly arranged in length, quantity and position within the phonetic passage.

The speech of the seventh speaker was highly accented (62%), but received 68% of the correct answers. It might be explained by the fact that the speaker elaborated on the problem described in the passage which presented an opportunity for the listeners to answer correctly the comprehensive question (see Figure 10). The speaker mispronounced the words, he was not capable to present the difference in articulating consonant pairs like /v/ and /w/, constant pauses and slow ‘robotic’ speech were accountable for the severe foreign accent of the speaker.
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**Passage 7**

Speaker eight was rated by 52% of the respondents as a bearer of a mild accent. The rate of the correct answer was moderate – 58%, and the percentage of the incorrect answer was higher than 10. The high quantity of the incorrect answer might be explained by the fact that the sentence itself includes a phrasal verb ("show off"), the meaning of which might not be familiar to the listeners (see Figure 11).

**Passage 8**

The speech of the ninth speaker was rated as a mildly accented speech (59%) and the correct answer was given only by 32% of the listeners, which enabled to presume that along with a strong accent the speech was unintelligible (see Figure 12). The repetitive mistake was the incompetent articulation of the dental consonants; monotonous speech and lack of long pauses at the end of the sense-groups were the reasons for the low ratings from non-native speakers.

**Passage 9**

Figure 10. Passage 7

Figure 11. Passage 8

Figure 12. Passage 9
The last speaker received the highest rating for the low accented speech (65%) and understanding of the passage (82%) (see Figure 13). The tempo was normal, the pauses were adequate and the terminal tones were accordingly used through the whole duration of the passage.

Passage 10

It can be summarized that 34% of speakers have a slight accent when they speak English, getting the lowest ratings on the degree of a foreign accent (indicators 1, 2 and 3) from the non-native listeners.

The average accuracy of the correct answers to the comprehensive questions is 78%. The average choice of the variant ‘hard to answer’ is 8% and the ratio of incorrect answers is 14% on average. The correct answer for the comprehensive question indicates that the speech was understandable (e.g. 71% for a low degree of a foreign accent (FA) and 76% for correct answer), the incorrect answer and ‘hard to answer’ imply that it was difficult for the listener to determine the main idea of the passage (e.g. 13% for a low degree of a FA and 57% for an incorrect answer). The data for each speaker is illustrated in Table 1.

The collective data

<table>
<thead>
<tr>
<th>Excerpt</th>
<th>Degree of FA (indicators 1, 2, 3)</th>
<th>Correct answer</th>
<th>Incorrect answer</th>
<th>‘Hard to answer’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passage 1</td>
<td>71,05%</td>
<td>76,47%</td>
<td>9%</td>
<td>15%</td>
</tr>
<tr>
<td>Passage 2</td>
<td>43,33%</td>
<td>74,19%</td>
<td>10%</td>
<td>16%</td>
</tr>
<tr>
<td>Passage 3</td>
<td>16,67%</td>
<td>96,67%</td>
<td>3%</td>
<td>0%</td>
</tr>
<tr>
<td>Passage 4</td>
<td>58,62%</td>
<td>79,31%</td>
<td>17%</td>
<td>3%</td>
</tr>
<tr>
<td>Passage 5</td>
<td>17,86%</td>
<td>79,31%</td>
<td>14%</td>
<td>7%</td>
</tr>
<tr>
<td>Passage 6</td>
<td>39,29%</td>
<td>89,66%</td>
<td>7%</td>
<td>3%</td>
</tr>
<tr>
<td>Passage 7</td>
<td>3,45%</td>
<td>68,97%</td>
<td>21%</td>
<td>10%</td>
</tr>
<tr>
<td>Passage 8</td>
<td>10,34%</td>
<td>58,62%</td>
<td>28%</td>
<td>14%</td>
</tr>
<tr>
<td>Passage 9</td>
<td>13,79%</td>
<td>32,14%</td>
<td>57%</td>
<td>11%</td>
</tr>
<tr>
<td>Passage 10</td>
<td>64,29%</td>
<td>82,14%</td>
<td>14%</td>
<td>4%</td>
</tr>
</tbody>
</table>
5. Conclusions and implications for further research

The conducted research provided an opportunity to analyze the English speech of Ukrainians and its perception by non-native speakers with a high command of the target language. It can be summarized that the Ukrainians, who studied the English language for more than ten years and have on average the level of Upper-Intermediate, speak with a slight foreign accent which makes their speech mostly comprehensible and intelligible enough for foreigners.

It may be concluded that misarticulation of sounds and mispronunciation of words, incorrect pausation, too fast or too slow tempo, and monotonous presentation of the passage obstruct the understanding of the speech and are responsible for rating it as highly accented. Whereas the similarity in quantity and quality of pauses, adequate use of terminal tones, avoidance of unnecessary repetitions and self-corrections receive low ratings when the goal is to measure a foreign accent.

Further investigation is needed to specify which prosodic features (dynamic, temporal, or tonal) influence positively the perception of accented speech and which are responsible for the negative attitude towards Ukrainian speakers with an accent. The research on segmental and suprasegmental levels of the analyzed speech is required to establish which of the aforementioned features are more relevant for the listener. Furthermore, the investigation of educational background, language training, language strategies, motivation, and other non-linguistic features are to be disclosed to couple with linguistic features to build the full picture of what makes the foreign speech to be perceived as less accented.

REFERENCES


DICTONATIES

TRANSLITERATED REFERENCES

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Сфера наукових інтересів:
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