The Assessment of the Biological Determinants of Pronunciation in Foreigners Learning Polish

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Abstract

On the basis of preliminary report from a study conducted on foreigners learning Polish as their L2 the authors conclude that the observed difficulties in mastering Polish pronunciation may result from some biological disorders of the speakers. In Polish the efficiency of speech organs is essential due to the frequent use of non-palatal alveolars and other sibilants. All examined foreigners have had some anatomical or functional abnormalities (such as: shortened lingual frenulum, incorrect tongue in rest posture etc.) forming a significant impediment in achieving correct articulation in Polish, especially in the realization of alveolar trill and sibilants. The authors point out that the elements of logopaedic methodology should be taken into account in assessing the pronunciation of foreign learners of Polish.

Key words: bilingualism, L2 pronunciation, articulatory disorders, second language acquisition.

Introduction

The subject of the article is the pronunciation of foreign learners of Polish as their second language (L2). This paper points out the importance of considering the logopaedic methodology elements in assessing the articulation of Polish phones in foreigners. Such an approach can support other ways of helping learners to achieve proper pronunciation.

It is assumed that speech is a system of competence and skills; the pronunciation is one of the crucial elements of skills, needed to use a language [Grabias, 1997]. It is believed that a phone is a realization of a phoneme, understood as a psychological entity. This phenomenon is involved on one hand in understanding an utterance, but on the other hand it becomes a basis for creating phones [Grabias 1997, Kurkowski, 2013; Pluta-Wojciechowska 2014]. Therefore, a phone represents a phoneme in the external world. A logopaedic perspective related to articulatory disorders postulates that various factors should be taken into account in identifying the causes of distorted pronunciation of foreign learners.

In the studies concerning difficulties experienced by foreigners learning the L2 pronunciation, it is assumed that the roots of such problems lie in

the L1 impact; such phenomena as a negative transfer [Odlin, 1993; Tepperman et al., 2009] and different articulatory settings, specific for every language [Honikman 1964, Gick et al., 2004] are highlighted in particular. These are vital approaches, but might be insufficient in teaching foreigners to pronounce Polish sounds correctly. Presented considerations may become the basis for creating a new paradigm of dealing with these foreign learners who have problems in mastering the Polish phonetics. The methodological foundations of this approach are based on conclusions from the logopaedic research, which was conducted on native Polish speakers and also on 6 foreigners — as a pilot study.

The effects of non-normative pronunciation of foreigners learning Polish

As stated by de Saussure, a language sign includes both the concept and acoustic image (identified with the spoken word). The signified (the concept) and the signifier (the acoustic image) are related to each other and depend on each other [De Saussure 1991]. Hence, a form of spoken word should be clear enough so that the hearer could easily comprehend its meaning**.**

Non-standard acoustic form of speech leads to various reactions of the recipient: it may cause diverse levels of incomprehensibility of the utterance or the hearer might be interested in an abnormal form of the sound, instead of focusing on the transmitted message.

If one wants to teach the foreigners how to successfully communicate in L2, one must also teach them the proper pronunciation [Derwing, Munro 2005; Seretny, Lipińska, 2005; Szpyra-Kozłowska, 2013]. The aberrant pronunciation may evoke undesirable reactions from the hearers; either misunderstandings or perceiving foreigners as amusing and frivolous. Those kinds of reactions underestimate their linguistic competence.

The phonetic and phonological system of Polish language

To begin with, we should ask a question why the Polish pronunciation is so difficult for foreigners? [Schmidt and Castellví 2010; Maciołek and Tambor 2012]. To provide a comprehensive answer, it is necessary to elaborate on the specificity of the Polish phonetic and phonological system.

The Polish language belongs to moderately consonantal systems; the use of consonants forms more than 80 percent of the general store of phonemes. One of the most characteristic features of the Polish language is a high frequency of affricates and fricatives (dental, alveolar or palatal), as well as common consonant groups [Rocławski 1977, Maciołek and Tambor, 2012]. Therefore, the Polish language has some distinctive features recognized not only by linguists but also by foreigners.

Both articulation and phonemic differentiation of Polish non-palatal alveolar sibilants can be difficult for those foreigners whose L1 does not have such sounds. As Lipowski says, these phones can become a phonetic identi-

fier, due to which foreigners' pronunciation is recognized as incompatible with the Polish standards [Lipowski, 2011]. According to the Polish logopaedic studies, alveolars are the most frequently distorted phones even by the Poles themselves. The factors responsible for these distortions are biological abnormalities of the speakers' speech organs [Konopska, 2006; Ostapiuk, 2013; Pluta-Wojciechowska, 2013; Sambor 2014]. That is why the analysis of anatomical, functional and perceptive conditions of the speakers is necessary.

Contemporary comparative studies have proven that pronunciation is related not only to distinct acoustic properties of language, but also to the language-specific general oral posture and mechanics (Honikman 1964). It is assumed that each language has a different articulatory posture, which can be measured in the pauses in an utterance ('Inter-Speech Posture' — ISP) [Gick et al., 2004. Ramanarayanan et al., 2013]. In the aspect of articulation economics, the ISP is crucial for the rapid movement and rearrangement of the speech organs and it is associated with the entire phonetic system.

However, this issue is inadequately taken into account in discussing the pronunciation difficulties in foreign learners of Polish. The logopaedic perspective of the ISP allows to hypothesize that it may also be determined by the anatomical and functional conditions of a speaker.

The logopaedic prospect of creating a phoneme's realization

In the logopaedic approach the production of a phone is a result of a phoneme's activation and of a movement of speech organs. In fact, a specific arrangement, position and movement of the speech organs can be noticed in every phonetic feature. Therefore, the structure and efficiency of these organs are essential.

The knowledge about the formation of a phoneme and a phone in ontogenesis is of great importance in making an accurate diagnosis of phonetic disorders (also in foreigners).

The nntogenetic origination of a phoneme and a phone is associated with the perception and realisation processes: the perception relates to the development of the physiological, phonemic and phonetic hearing, and the realisation concerns motor aspects of speech [Grabias 1997]. The motor functions of the speech organs are connected with the development of the basic biological functions such as respiration, food and fluid ingestion and deglutition [Hiiemae and Palmer, 2003]. In logopaedics these activities are called 'primary functions' to emphasize the fact that they precede speech and become a basis of the 'secondary function': articulated speech [Pluta-Wojciechowska 2011, 2013].

The findings of the studies conducted in native Polish speakers showed that the incorrect patterns of primary functions are strictly associated with the abnormal articulation [Konopska, 2006; Ostapiuk, 2013; Pluta-Wojciechowska, 2011, 2013; Sambor, 2015]. Thus, the diagnosis of articulation disorders should include the assessment of all biological processes involved in speech production.

The examination of the pronunciation of foreign learners of Polish

The pilot study has been aimed at evaluating the quality of articulation of Polish consonants in 6 foreigners learning Polish as L2. In this evaluation the analytical-phonetic method has been used. It relies on assessing every phonetic feature using auditory, visual, sensory and experimental paths of access. The perception and realization processes of the speakers have also been analyzed.

The research findings support the thesis of difficulty of the Polish language: each of the examined foreigners have had problems with the correct pronunciation of alveolar and palatal phones. Four of them could not utter alveolar trill [r]. Some difficulties in phonemic differentiation of sibilants and severe problems in articulating alveolar fricatives and affricates have been observed in 3 subjects. It has been found that all participants had ankyloglossia[1] (from mild to moderate degree). Two of them presented an incorrect tongue posture while breathing and swallowing.

Conclusions

On the basis of preliminary studies it can be concluded that some of the difficulties in implementing Polish phonemes result from defective anatomical and functional conditions. The requirements of Polish articulation are demanding, therefore the sufficient mobility and efficiency of the speech organs are needed to achieve necessary articulatory positions. Some biological disorders observed in the subjects create particularly difficult conditions for forming Polish sounds. Thus, the diagnosis ought to be deeper and should take into account the circumstances relating to the previously assimilated language. According to the literature, the L2 use is conditioned by e.g. a communication strategy adopted by a bilingual speaker [Grosjean, 2008], a possible occurrence of phonetic and phonological transfer from L1 to L2 [Kurcz, 2007; Weinreich, 2007] as well as different articulatory settings [Wilson and Gick, 2014] and diverse articulatory strategies adopted by bilingual speakers [Badin et al., 2014].

The other possible phenomena should be considered as well, e.g. some articulatory inefficiency which springs from the lack of training in the pronunciation of L2. A different phonetic structure of words created in L2 can inhibit tongue's proper activity needful to pronounce the whole words correctly [Maciołek and Tambor, 2012]. The necessity of "breaking down the linguistic sign' in L1 and assigning a known meaning with another phonic image is also noteworthy. [Grosjean, 2008]. Other determinants such as: linguistic abilities, age, motivation, or social factors may also have an impact on the pronunciation acquisition [Kurcz, 2007; Bialystok and Hakuta, 1999].

[1] shortened lingual frenulum, which constrains the tongue's movability.

To summarize, the threshold conditions for the correct pronunciation are unique to every language. The speaker may be competent in L1 pronunciation, but he/she may not deal with the higher requirements of the L2 phonetics. These failures may also be related to the anatomical/functional defects within the orofacial space.

The outlined issue requires further research and analyses. The elements of logopaedic methodology can be used in assessing the pronunciation of foreigners learning Polish as L2. That gives an opportunity to shed light on the causes of problems in learning a new language, presumably not only in learning Polish.

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