

Polish learners' attitudes towards learning English pronunciation: revisited

Stosunek polskich uczniów do nauki wymowy języka angielskiego: analizując od nowa

Dorota Lipińska
Wyższa Szkoła Zarządzania Marketingowego
i Języków Obcych w Katowicach

Abstract

It is widely agreed that acquisition of a sound system of a second language always presents a great challenge for L2 learners (e.g. Rojczyk, 2010). Numerous studies (e.g. Nowacka, 2010; Flege, 1991) prove that L2 learners whose first language has a scarce number of sounds, encounter difficulties in distinguishing L2 sound categories and tend to apply their L1 segments to new contexts. There is abundance of studies examining L2 learners' successes and failures in production of L1 and L2 sounds, especially vowels (e.g. Flege, 1992; Nowacka, 2010; Rojczyk, 2010). However, the situation becomes more complicated when we consider third language production. While in the case of L2 segmental production the number of factors affecting L2 sounds is rather limited (either interference from learners' L1 or some kind of L2 intralingual influence), in the case of L3 segmental production we may encounter L1→L3, L2→L3, L1+L2→L3 or L3 intralingual interference. This makes separation of L3 sounds a much more complex process.

The aim of this paper is to examine whether speakers of L1 Polish, L2 English and L3 German are able to separate new, L3 vowel categories from their native and L2 categories. The research presented in this article is a part of a larger project assessing production of L3 segments. This time

the focus is on German /y/. This vowel was chosen since it is regarded as especially difficult for Polish learners of German and it is frequently substituted with some other sounds. A group of English philology (Polish-English-German translation and interpretation programme) students was chosen to participate in this study. They were native speakers of Polish, advanced speakers of English and upper-intermediate users of German. They had been taught both English and German pronunciation courses during their studies at the University of Silesia. The subjects were asked to produce words containing analysed vowels, namely: P /u/, P /i/, E /uÉ/, E /iÉ/, E /i/ and G /y/. All examined vowels were embedded in a /bVt/ context. The target /bVt/ words were then embedded in carrier sentences: *I said /bVt/ this time* in English, *Ich sag' /bVt/ diesmal* in German and *Mówię /bVt/ teraz* in Polish, in a non-final position. The sentences were presented to subjects on a computer screen and the produced chunks were stored in a notebook's memory as .wav files ready for inspection. The Praat 5.3.12 speech-analysis software package (Boersma, 2001) was used to measure and analyse the recordings. The obtained results suggest that L2 affects L3 segmental production to a significant extent. Learners find it difficult to separate all "new" and "old" vowel categories, especially if they are perceived as "similar" to one another and when learners strive to sound "foreign".

Key words: L3 pronunciation, L2 pronunciation, segmental production, vowels, L2 status.

Abstrakt

Przyswajanie systemu fonetycznego języka drugiego (J2) zawsze jest ogromnym wyzwaniem dla uczących się nowego języka (np. Rojczyk, 2010). Liczne badania (np. Flege, 1991; Nowacka, 2010) udowodniły, że w przypadku, gdy J1 uczących się nowego języka ma raczej ograniczoną liczbę dźwięków, wówczas osoby te mają problemy z odróżnianiem większej liczby nowych głosek i często zastępują je ojczystymi segmentami. Łatwo można znaleźć wiele badań dotyczących sukcesów i porażek w produkcji i percepcji nowych dźwięków przez uczących się J2 (np. Flege, 1992; Nowacka, 2010; Rojczyk, 2010), jednakże sytuacja staje się znacznie bardziej

skomplikowana w przypadku przyswajania języka trzeciego (J3). Podczas przyswajania języka drugiego liczba czynników wpływających na proces produkcji poszczególnych segmentów jest raczej ograniczona (może to być wpływ języka pierwszego lub też interferencja językowa wewnątrz J2), natomiast podczas przyswajania języka trzeciego ich liczba jest zdecydowanie większa (J1→J3, J2→L3, J1+J2→L3 lub procesy zachodzące wewnątrz J3). To wszystko sprawia, że przyswajanie systemu fonetycznego języka trzeciego jest procesem wyjątkowo złożonym.

Celem niniejszego artykułu było zbadanie czy rodzimi użytkownicy języka polskiego z J2 — angielskim i J3 — niemieckim, są zdolni do oddzielenia nowych, niemieckich kategorii samogłoskowych od tych polskich i angielskich. Badanie tu opisane jest częścią większego projektu mającego na celu ocenę produkcji samogłosek w J3. Tym razem opisana jest produkcja niemieckiego /y/. Samogłoska ta została wybrana ponieważ jest uważana przez uczących się języka niemieckiego za wyjątkowo trudną i często jest zastępowana innymi, podobnymi polskimi dźwiękami. Uczestnikami badania była grupa studentów filologii angielskiej, potrójnego programu tłumaczeniowego: polsko-angielsko-niemieckiego. Byli rodzimymi użytkownikami języka polskiego, zaawansowanymi użytkownikami języka angielskiego i średniozaawansowanymi użytkownikami języka niemieckiego. Przed przystąpieniem do badania, byli oni uczeni wymowy obu obcych języków. W trakcie badania musieli wyprodukować słowa zawierające wszystkie badane dźwięki, mianowicie: P/u/, P/i/, A/uÉ/, A/iÉ/, A /i/ oraz N/y/. Wszystkie badane samogłoski były ukryte w kontekście /bSt/. Te słowa były następnie ukryte w zdaniach: *I said /bVt/ this time* po angielsku, *Ich sag' /bVt/ diesmal* po niemiecku oraz *Mówię /bVt/ teraz* po polsku. Wszystkie wypowiedzi zostały nagrane jako pliki .wav, a następnie poddane analizie akustycznej przy użyciu programu Praat (Boersma, 2001). Uzyskane wyniki pokazały jak trudne dla uczących się języków jest rozdzielanie „nowych” i „starych” samogłosek, zwłaszcza, gdy brzmią one podobnie, a mówiący starają się mówić „jak obcokrajowiec”.

Słowa kluczowe: wymowa w J3, wymowa w J2, produkcja segmentów, status języka drugiego.

Introduction

For many years, second/foreign languages have been considered as an irreplaceable tool for communication. Yet, in order to communicate successfully, a language user needs to be understood correctly and their speech must be intelligible to convey the intended message. And, as everybody is not only a speaker, but also a listener at the same time, all language users must be capable of understanding other people. To accomplish that aim, a set of rules must be obeyed (grammatical, lexical, but also pronunciation ones). These have to be applied especially when the speakers are from different language backgrounds (e.g. a native speaker of a given language and a non-native speaker or two non-native speakers from various countries) and they do not share the same or similar factors influencing their speech in a language being used (e.g. Littlewood, 1994). Although L2 learners care a lot about grammatical (syntactic) norms and errors at all stages of proficiency, they often forget that grammatical norm is not the only type of norm which ought to be taken into account if one wants to approximate the native, e.g. English, models, and they tend to disregard pragmatic, morphological, orthographic and phonetic norms (Sobkowiak, 2004). It is a common situation when L2 learners care less about proper articulation and usually pay more attention to comprehension skills and grammatical rules, especially when they have not been trained to discriminate major phonetic differences since the early stages of learning L2 (Eddine, 2011).

Acquisition of an L2 phonetic system

Unlike L2 learners, native speakers of a given language are equipped with the knowledge concerning all the necessary phonological rules of this language. This kind of knowledge is reflected in both recognition and production of sounds. Non-native language users, on the other hand, if they wish to be successful L2 learners, need to acquire this kind of knowledge in the process of SLA (Gass and Selinker, 2008). However, sound systems of various languages differ to a great extent and this task frequently may become very difficult, especially for learners after the age of puberty (e.g. Rojczyk, 2009; Rojczyk, 2010); it has also been observed that some learners never master target language pro-

nunciation at the satisfactory level (Littlewood, 1994). Moreover, it must not be forgotten that there is no ready phonological representation of L2 automatically available to a learner, and because of that every L2 learner must construct their own phonological representation of L2. Another problem is that the representation which learners construct can be different from the one constructed by native speakers of a target language (Ard, 1990).

What is more, certain L2 sounds are much more difficult to acquire than others. This has been confirmed by copious studies on SLA. A lot of difficulties which L2 learners encounter while learning some L2 sounds are thought to be connected with the influence of their L1 phonological knowledge. Although the popular assumption shared by non-linguists is that learning a given L2 segment is easier when it is similar to a corresponding L1 sound, research on L2 speech perception and production has proved that perceiving L2 sounds is not as simple as just deciding whether given segments in L1 and L2 are similar to each other or not. Apart from that, there are numerous linguistic and psychological factors contributing to the process of perception and production of L2 segments (Pilus, 2005).

Two models of speech perception and production

There are two most popular models of speech production and speech perception which predict what difficulties may be encountered by language learners acquiring an L2. The first one is the *Perceptual Assimilation Model* by Best (e.g. Best, 1994), and the other one is the *Speech Learning Model* by Flege (e.g. Flege, 1995).

The first of the aforementioned models is the Perceptual Assimilation Model, formulated and developed by Best (e.g. Best, 1994; Best, 1995). It says that the difficulties encountered by L2 users learning L2 speech sounds are determined by their perceptual limitations. The PAM suggests that L2 learners usually classify sound contrasts in L2 into various categories, depending on the degree of similarity between their native and non-native segments (Pilus, 2005). Similarity in this case is understood as the spatial proximity of constriction location and active articulators (Brown, 2000).

This kind of classification of L2 contrasts determines how these contrasts will be assimilated to learners' native categories (Best, 1995; Pilus, 2005).

The Speech Learning Model (Flege, 1995) focuses on the ultimate attainment of L2 production. It concentrates on L2 users who have been learning their L2 for a long period of time and predicts that phonetic similarities and dissimilarities of one's mother tongue and their TL segments will affect the degree of success in production and perception of non-native sounds (Flege, 1995 reported in Rojczyk, 2009) since bilinguals are never able to fully separate their L1 and L2 phonetic subsystems (Flege, 2003). According to the SLM, the sounds in L2 are divided into two categories, namely *new* and *similar*. New sounds are those which are not identified by learners with any L1 sound. Similar sounds are those regarded as being the same as certain L1 sounds (Brown, 2000). In this case phonetic similarity and dissimilarity are defined in terms of the acoustic and articulatory characteristics of the linguistically relevant speech sounds. Thus, the attainment of native-like production and perception of given L2 sounds is linked to the phonetic distance between L1 and L2 segments (Flege, 1995; Rojczyk, 2010). According to this model, L2 learners tend to be less successful in learning those L2 sounds which are similar to L1 sounds as the similarity usually blocks the formation of a new phonetic category by means of the equivalence classification. But those L2 sounds which are different or new in comparison to L1 categories, encourage L2 learners to create new L2 categories (Flege, 1995; Rojczyk, 2010).

It seems obvious that predictions made by the Speech Learning Model, are more relevant to the present study as the SLM, unlike the PAM, focuses on the process of learning and concentrates on experienced language learners.

Acquisition of an L3

Learning more than one second/foreign language is even more complex. For many years acquisition of a third or any additional language was classified as a part of SLA (e.g. Cenoz, 2000; Jessner, 2006); however for the last twenty years Third Language Acquisition (TLA) has been described as a separate process, clearly different from SLA (Chłopek, 2011). There are

numerous differences between them, yet the main and probably most important one is the number of already acquired languages (or interlanguages) since they are likely to create copious instances of feasible interlingual interactions. Another important factor here is the order of language acquisition in TLA. It is worth noticing that while during SLA the number of such configurations is rather limited (an L2 learner can acquire either two languages simultaneously or simply one language after another), in the case of learning three various languages there are more possible configurations (e.g. three languages one after another, L1+L2 first and then L3 or L1 first and then L2 + L3). The fluency in each of the acquired languages also affects TLA to a great extent. These factors altogether make third language acquisition a phenomenon more complex and more dynamic than second language acquisition (Chłopek, 2011).

Transfer between a learner's mother tongue and their TL in the process of SLA is an obvious and well-known phenomenon (e.g. Arabski, 2006). Numerous studies proved that transfer of linguistic properties from a learner's L1 into their L2 is one of pervasive features of the process of second language acquisition (Towell and Hawkins, 1994). However, while in the case of SLA it is possible to encounter either L1→L2 transfer or L2 intralingual interference (naturally, L2→L1 transfer is also possible, but this phenomenon is not as frequent as the two previous variants), in TLA, since the languages are likely to affect one another in any configuration, the number of transfer possibilities increases steeply. For example, for three languages the configurations may be as follows: L1→L2, L1→L3, L2→L3, L2→L1, L3→L2 or L3→L1 (Chłopek, 2011; Ionin et al., 2011). What is more, although it is rather a rare phenomenon, also combinations of various languages can influence other ones (e.g. L1+L2→L3, L1+L3→L2 or even L2+L3→L1) (Chłopek, 2011). Withal, it has been verified that various languages may influence other ones in completely unlike ways and, for instance, it often happens that L2 affects L3 in ways that L1 never does (Odlin, 2005).

All the aforementioned factors imply that L3 in its various aspects may be influenced by both one's L1 and L2 to a great extent. Various studies have shown different results in this matter. Depending on a research project, combinations of languages and language aspects analysed, it has been

proved that in the case of L3 acquisition, L2 can be a predominant source of transfer (e.g. Hammarberg, 2001; Treichler et al., 2009) but it may also be one's mother tongue (e.g. Chumbow, 1981). However, one must not forget that the order of language acquisition cannot serve as an exclusive explanation in this case. Among crucial factors in TLA one should mention a typological distance between the analysed languages as it sometimes may be even more influential than the order of language acquisition (Letica and Mardešić, 2007; Chłopek, 2011). Typological distance is based on classifying languages according to their structural characteristics (Lammiman, 2010). To put it simply, the closer two languages are to each other, the more similarities they share. This, in turn, can pose significant difficulties to learners. Moreover, De Angelis and Selinker (2001) discovered in their study that typological similarity between non-native languages is likely to provoke non-native transfer in non-native production. This has been proved by e.g. Lipińska's (2014) study on lexical transfer in L3 production. This project confirmed that typologically closer L2 English affected L3 German more than L1 Polish did.

L2 status

Different factors have been considered to explain why one, and not another, language is transferred to L3 in a given context. Among them, one can mention: proficiency and fluency in both L2 and L3 (e.g. Bardel and Lindqvist, 2007; De Angelis, 2007; Lindqvist, 2010), recency of use of a particular language, degree of formality and age of onset (for overviews see, e.g. De Angelis, 2007; Falk and Bardel, 2010). However, one factor seems to be very influential here. Numerous recent studies show that L2 can exert a stronger effect on L3 than L1 (e.g. Bardel and Falk, 2007; Bohnacker, 2006; Falk and Bardel, 2011; Leung, 2005; Rothman and Cabrelli Amaro, 2010). A possible explanation of why L2 can in some cases outrank L1, is the so-called *L2 status factor*. Hammarberg (2001) defines the L2 status factor as “a desire to suppress L1 as being ‘non-foreign’ and to rely rather on an orientation towards a prior L2 as a strategy to approach the L3” (Hammarberg, 2001: 36—37). De Angelis (2005) explains that non-native languages are classified as “foreign language” category in learners' minds, thus

creating a cognitive association between them. As one's L1 does not sound "foreign", it is usually excluded and blocked from this association. De Angelis calls this process an "association of foreignness" (De Angelis, 2005: 11). It tends to favour non-native transfer, thus giving L2 a privileged status. This phenomenon was observed early on by Meisel (1983), who labelled it a *foreign language effect* (cf. also Ecke and Hall, 2000, where it is called *Fremdspracheneffekt*). The L2 status has since then been regarded as one of the most influential factors which can determine the transfer source (L1 or L2) in studies on L3 vocabulary and pronunciation (e.g. Cenoz, 2001; De Angelis, 2007; Llana et al., 2007).

Acquisition of an L3 phonetic system

Unfortunately, in comparison to L2 phonetic studies, L3 pronunciation research is a relatively new area, and relevant studies are rather scarce (see e.g. Tremblay, 2008; Wrembel, 2010). However, this situation is changing and for the last ten years there have been some attempts to explore the subject of TLA in greater depth. Naturally, the first area of interest for researchers was assessing L3 learners' production or perception in L3 (e.g. Tremblay, 2008; Wrembel, 2011) and examining the degree of L2 influence on the process of L3 acquisition (e.g. Tremblay, 2006; Wrembel, 2010). However, as cross-linguistic influence in the case of acquisition of L3 pronunciation is very complex, it has been proved to be a considerably more complicated factor (Wrembel, 2011). Nevertheless, more research is desirable in order to explain how L1 and/or L2 affect L3 pronunciation (Llana et al., 2007). Consequently, since acquisition of more than one foreign language is very common nowadays, L3 research ought to be extended in theory and provide clear further implications for classroom practice.

One hypothesis claims that a learner's L1 serves as a predominant source of transfer in TLA (e.g. Ringbom, 1987). Research by Llisteri and Poch (1987) confirms this hypothesis. In their study, they performed an acoustic analysis of L3 vowels produced by native speakers of Catalan and L2-Spanish. The results revealed that in that case L1 affected L3 production exclusively. One of Wrembel's studies on L3 pronunciation (Wrembel, 2013) revealed similar conclusions. The participants of her study were

speakers of L1-Polish, proficient users of L2-English and different-level speakers of L3-French. Informants' speech samples were recorded and evaluated online by expert raters. They assessed accent, intelligibility, acceptability and confidence level. The results showed that the participants' mother tongue was the dominant source of transfer, however L2's influence was also detectable.

Some case studies showed that at early stages of L3 acquisition, L2 exerts a strong influence on L3 pronunciation (e.g. Marx, 2002; Williams and Hammarberg, 1998). Nevertheless, one should bear in mind that the aforementioned studies were based on the speakers' impressions or on the judgements of a group of listeners who assessed speakers' overall accent as being affected either by their L1 or their L2 and did not include an acoustic analysis of the produced sounds. Wrembel (2010) in her study reported that in third language production, second language mechanisms are often reactivated and thus the transfer from L1 can be impeded. Native speakers of Polish, with L2-German and L3-English were engaged in her study. Their speech production was recorded and assessed perceptually by 27 linguists. The informants varied in their proficiency in L3 English. The study results proved that L2 had a more significant influence on L3 speech production at the initial stages of third language acquisition, but became less prominent as L3 developed. Wrembel noticed, however, that the typological similarity between English and German probably influenced the study participants' L3 speech production.

Another interesting study was conducted by Tremblay (2008). This research focused on an acoustic analysis of the Voice Onset Time (VOT) in the L3 Japanese speech of L1-English and L2-French users. The results suggested that there was noticeable evidence for L2 influence on L3. Another study on VOT in L3 was carried out by Wrembel (2011). She analysed VOT in the L3 French speech of L1-Polish and L2-English bilinguals. Her research showed that there was a combined cross-linguistic influence of both L1-Polish and L2-English on study participants' L3 production. She stressed that it offered a further evidence for a significant L2 presence in L3 phonological acquisition.

Current study: rationale and study design

The aim of this study was to examine the influence of L1 and L2 on L3 segmental production. The main question was whether native speakers of Polish with L2 English and L3 German are able to separate new, L3 vowel categories from their L1 and L2 categories, as well as whether formal training in L2 and L3 pronunciation may possibly facilitate this process. Although the research described in this paper is a part of a larger project, this time only the acquisition of German /y/ will be described. This vowel was chosen as it is regarded as especially difficult for Polish learners of German and it is frequently substituted with some other similar sounds copied from L1 (and sometimes from various L2s).

Eleven English philology students (Polish-English-German translation and interpretation programme) recruited at the Institute of English, University of Silesia, participated in this study. The number of the study participants was rather limited as the aforementioned programme is the only one of this kind at universities in the area, which includes formal instruction in L2 English and L3 German pronunciation, and the number of students in the group is strictly limited. They were all fifth-year students, females, and their age ranged between 22 and 25 years old (mean: 23, median: 23). All the subjects were advanced speakers of English and upper-intermediate users of German. Thanks to a regular administration of tests in practical use of English and German, a group of informants characterised by a uniform level of proficiency in both languages was selected. None of the informants reported any difficulties in communication with native speakers of English or German. Prior to the study, they had completed the whole university course in English pronunciation (2 years; 4 semesters) and the whole university course in German pronunciation (1 year, 2 terms). That was the main difference between this project and the previous studies in which study participants had not been formally trained in phonetics and phonology of their both L2s and L3s. All study participants volunteered and were not paid for their participation. None of them reported any speech or hearing disorders.

In this study the production of German /y/ was compared to the production of similar, neighbouring Polish and English vowels. The subjects

were asked to produce words containing analysed sounds, namely: P /u/, P /i/, E /uÉ/ , E /iÉ/ , E /ɪ/ and G /y/. The material used in this study was the same for all subjects. All the examined vowels were embedded in a /bVt/ context. This context was preferred since /b/ in the analysed languages is of the same quality, while in the case of more popular, “standard” /hVd/ context, English uses a glottal fricative /h/, and Polish has a velar /x/ (Jassem, 2003). This fact may possibly cause some difficulties in vowel comparison because of the probability that consonantal effects might persist throughout the whole vowel portion, its target included (Fox and Jacewicz, 2009). The target /bVt/ words were then embedded in carrier sentences: I said /bVt/ this time in English, Ich sag’ /bVt/ diesmal in German and Mówię /bVt/ teraz in Polish, in a non-final position. This position was preferred because previous research has shown that there exists a significant influence of utterance final positions on spectral properties of different sounds (e.g. Cho, 2004 reported in Rojczyk, 2010). The sentences were presented not only in an orthographic form, but also in phonemic transcription in order to avoid confusion how to pronounce given words. It was possible as the informants had been taught IPA phonemic transcription during their English and German practical phonetics and phonology/pronunciation courses. The sentences were presented to the study participants as a PowerPoint presentation on the computer screen. Although only six vowels were analysed in this study, also other vowels were recorded from each speaker for future research purposes. Also sentences containing other contexts were recorded. First of all, they were used as distractors in this study. Moreover, they were recorded for further research purposes. The use of distracting sentences guaranteed that subjects did not realise which vowels were actually examined by the researcher. The produced utterances were stored in a notebook’s memory as .wav files ready for inspection. The Praat 5.3.12 speech-analysis software package (Boersma, 2001) was used to record and scroll through the audio files in order to locate an onset and offset of target vowels, measure the F1 and F2 frequencies and plot vowels on the vowel plane. Frequencies of F1 and F2 were measured at vowel mid-point, where the moment of formant movement is minimal, so as to avoid transition movement

from and to the neighbouring consonants. It was supposed that L3 vowels could be affected by L2 sounds as a result of “foreign language effect”.

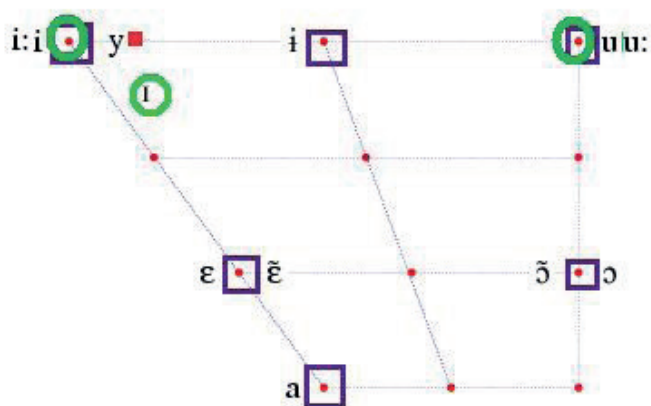


Figure 1.

Polish vowels (marked as purple squares) with overlaid English /uÉ/, /ö/ and /iÉ/ (green circles), and German /y/ (red square) (Figure made by the author, basing on the vowel planes from the Akustyk website)

All the recordings were then presented to a group of experts for an additional auditory analysis which could prove whether the revealed acoustic properties of the produced sounds stand in accordance with what can be heard. There were four linguists involved, and the experts consisted of a native German phonetician specializing in English philology and three Polish teachers of German. They listened to the recordings and rated them in their correctness, as well as perceived similarity between languages.

Results

The results obtained in this study are as follows:

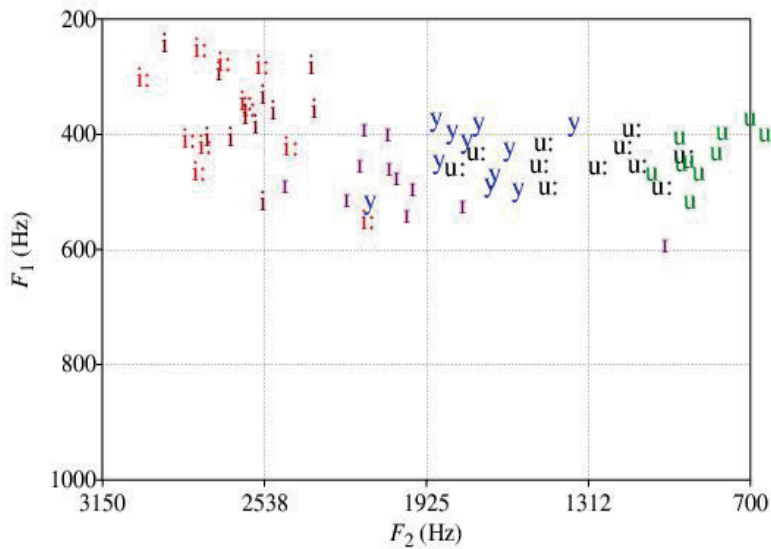


Figure 2.

The obtained results: P /u/s (green), P /i/s (brown), E /uÉ/s (black), E /iÉ/s (red), E /ö/s (purple) and G /y/s (blue)

The scatter plot above presents the results obtained by the study participants. It can be easily noticed that the results show that some of the analysed vowel categories merged completely. While subjects' German /y/ should be close to Polish /i/ and somewhere between English /iÉ/ and English /ö/, it was characterised by too high F1 values and too low F2 values (in comparison to the "correct", target vowel) and it merged with the English /uÉ/ category. The magnet effect of L2 vowel category was really strong in this case. It suggests that the influence of the study participants' L2 (English) persists in their L3 (German) production. German /y/ is frequently reported as similar to Polish /u/ or Polish /i/ and English /uÉ/ which, as expected by Flege's Speech Learning Model (Flege, 1995), hinders forming a new, L3 vowel category. To some extent it might have been caused by the influence of the orthographic form (words containing German /y/ are mainly spelled with "ü"). What was significant, was the fact that actually none of the subjects was able to separate G /y/ from L2 vowel categories and that

in all cases the F1 values were too low, and F2 values were too high. Nobody placed German /y/ in the area closer to Polish /i/, English /ø/ or English /iÉ/ which would be the “correct” space on the vowel plane.

As has already been mentioned, the recordings were subsequently presented to a group of experts for an auditory analysis. A native German phonetician specializing in English philology and three Polish teachers of German, having listened to the recordings, rated them in their correctness and perceived similarity between the involved languages, and moreover, were free to comment on what they detected in subjects’ recorded utterances. The experts agreed that the produced words and sounds in L2 (English) and L3 (German) were very similar or even identical to one another, which was in accordance with the results obtained in the acoustic part of the study. The linguists stated that the recorded subjects’ speech was thus highly English-accented and rather far from the target norm.

Conclusions

This study contributes to the developing area of third language phonology by assessing production of L3 vowels in comparison to L1 and L2 segments and by focusing on the influence of *L2 status* on L3 speech production. The results confirm what has already been noticed in previous, similar studies (e.g. Wrembel, 2010; Marx, 2002; Williams & Hammarberg, 1998); however, this study, for the first time relied on an acoustic analysis of L3 vowels (which had previously been subjected to an auditory analysis). The main conclusion is the fact that multilingual subjects encountered difficulties in separating L2 and L3 vowel categories and, as expected by SLM (Flege, 1995), German /y/ being perceived as similar to English /uÉ/ was almost completely subsumed into that L2 sound category. The obtained results may be regarded as an effect of impaired perception, suggesting a kind of similarity between new and old categories, spelling form, insufficient phonetic training and attempts to sound foreign (L2 status).

Although the subjects had completed university courses in English and German pronunciation, they all agreed that it was the first formal pronunciation training in their lives, and they had been learning English for an average of 11 years and German for an average of 6 years. As numerous

studies proved, phonetic training is actually absent in foreign language classes where grammar, translation and reading comprehension prevail, and both the teachers and learners notice the lack of pronunciation classes (e.g. Szpyra-Kozłowska et al., 2002; Szpyra-Kozłowska, 2008; Wrembel, 2002). The situation of L3 phonetic training is in an even worse condition, and future teachers of two foreign languages highlight that while they have rudimentary knowledge of their L2's phonetic system and its teaching techniques, they are not familiar with their L3's phonetic system at all, and hence are not able to teach it (Czajka & Lipińska, 2013).

References

- Arabski, J. 2006. Transfer międzyjęzykowy. In: Kurcz, I. (ed.), *Psycholingwistyczne aspekty dwujęzyczności*. Gdańsk: Wydawnictwo Gdańskiego Towarzystwa Psycholingwistycznego.
- Ard, J. 1990. A constructivist perspective on non-native phonology. In: Gass, S. & Schachter, J. (eds.) *Linguistic perspectives on second language acquisition*. Cambridge: Cambridge University Press.
- Bardel, C. & Falk, Y. 2007. The role of the second language in third language acquisition: the case of Germanic syntax. In: *Second Language Research* 23(4): 459—484.
- Bardel, C. & Lindqvist, C. 2007. The role of proficiency and psychotypology in lexical cross-linguistic influence. A study of a multilingual learner of Italian L3. *Atti del 6° Congresso Internazionale dell'Associazione Italiana di Linguistica Applicata. Naples 9—10 February 2006*.
- Best, C. T. 1994. The emergence of native-language phonological influences in infants: A Perceptual Assimilation Model. In Goodman, C. & Nusbaum, H. (eds.), *The Development of Speech Perception*. Cambridge: The MIT Press: 167-224.
- Best, C. T. 1995. A direct realist view of cross-language speech perception. In: Strange, W. (ed.), *Speech perception and linguistic experience: issues in cross-language research*. Timonium: York Press: 171-204.

- Boersma, P. 2001. Praat, a system for doing phonetics by computer. *Glott International* 10: 341-345.
- Bohnacker, U. 2006. When Swedes begin to learn German: from V2 to V2. In: *Second Language Research* 22(4): 443—486.
- Brown, C. 2000. The interrelation between speech perception and phonological acquisition from infant to adult. In: Archibald, J. (ed.) *second language acquisition and linguistic theory*. Malden: Blackwell Publishers Inc.
- Cenoz, J. 2000. Research on multilingual acquisition. In: Cenoz, J. & Jessner, U. (eds.) *English in Europe: The acquisition of a Third Language*. Clevedon: Multilingual Matters.
- Cenoz, J. 2001. The effect of linguistic distance, L2 status and age on cross-linguistic influence in Third Language Acquisition. In J. Cenoz, B. Hufeisen & U. Jessner (eds.), *Cross-Linguistic influence in Third Language Acquisition. Psycholinguistic Perspectives*, 8—20. Clevedon: Multilingual Matters.
- Chłopek, Z. 2011. *Nabywanie języków trzecich i kolejnych oraz wielojęzyczność*. Wrocław: Wydawnictwo Uniwersytetu Wrocławskiego.
- Cho, T. 2004. Prosodically conditioned strengthening and vowel-to-vowel coarticulation in English. In: *Journal of Phonetics* 32: 141-176.
- Chumbow, B.S. 1981. The mother tongue hypothesis in a multilingual setting. In: Savard, J.G. & Laforge, L. (eds.) *Proceedings of the fifth Congress of l'Association Internationale de Linguistique Appliquee, Montreal Auguste 1978*. Quebec: Les Presses de l'Universite Laval.
- Czajka, E. & Lipińska, D. 2013. Teaching L2 and L3 pronunciation: when things get complicated. In: Krawczyk-Neifar, E. (ed.) *English language and culture. Past, present and future*. Katowice, Wyższa Szkoła Zarządzania Ochroną Pracy
- De Angelis, G., & Selinker, L. 2001. Interlanguage transfer and competing linguistic systems in the multilingual mind. In J. Cenoz, Hufeisen, B. & Jessner, U. (eds.), *Cross-Linguistic influence in Third Language Acquisition: psycholinguistic perspective*. Clevedon: Multilingual Matters.
- De Angelis, G. 2005. Interlanguage transfer of function words. In: *Language Learning* 55. 379-414.
- De Angelis, G. 2007. *Third or Additional Language Acquisition*. Clevedon: Multilingual Matters.
- Ecke, P. & Hall, C.J. 2000. Lexikalischer Fehler in Deutsch als Drittsprache: translexikalischer Einfluss auf 3 Ebenen der mentalen Repräsentation. In: *Deutsch als Fremdsprache* 1: 31—37.

- Eddine, A.N. 2011. Second Language Acquisition: The articulation of vowels and importance of tools in the learning process. In: Arabski, J. & Wojtaszek, A. (eds.) *The acquisition of L2 phonology*. Bristol: Multilingual Matters.
- Falk, Y. & Bardel, C. 2010. The study of the role of the background languages in Third Language Acquisition. The state of the art. In: *International Review of Applied Linguistics in Language Teaching*. IRAL 48(2-3): 185—220.
- Falk, Y. & Bardel, C. 2011. Object pronouns in German L3 syntax: evidence for the L2 status factor. In: *Second Language Research* 27(1): 59—82.
- Flege, J. 1991. Orthographic evidence for the perceptual identification of vowels in Spanish and English. In: *Quarterly Journal of Experimental Psychology* 43: 701-731.
- Flege, J.E. 1992. The intelligibility of English vowels spoken by British and Dutch talkers. In: Kent, R. (ed.) *Intelligibility in speech disorders: theory, measurement and management*. Amsterdam: John Benjamins.
- Flege, J.E. 1995. Second language speech learning: theory, findings and problems. In: Strange, W. (ed.) *Speech perception and linguistic experience: issues in cross-language research*. Timonium: York Press.
- Flege, J.E. 2003. Assessing constraints on second-language segmental production and perception. In: Meyer, A. and Schiller, N. (eds.) *Phonetics and phonology in language comprehension and production, differences and similarities*. Berlin: Mouton de Gruyter.
- Fox, R.A. & Jacewicz, E. 2009. Cross-dialectal variation in formant dynamics of American English vowels. In: *Journal of the Acoustical Society of America* 126: 2603-2618.
- Gass, S. and Selinker, L. 2008. *Second Language Acquisition*. New York: Routledge.
- Hammarberg, B. 2001. Roles of L1 and L2 in L3 production and acquisition. In: Cenoz, J., Hufeisen, B. and Jessner, U. (eds.) *Cross-linguistic influence in third language acquisition: psycholinguistic perspectives*. Clevedon: Multilingual Matters.
- Ionin, T., Montrul, S. and Santos, H. 2011. Transfer in L2 and L3 acquisition of generic interpretation. *BULD 35 Proceedings*. Somerville, MA.: Cascadilla Press.
- Jassem, W. 2003. Illustration of the IPA: Polish. In: *Journal of the International Phonetic Association* 33: 103-107.
- Jessner, U. 2006. *Linguistic awareness in multilinguals: English as a Third Language*. Edinburgh: Edinburgh University Press.
- Lammiman, K. 2010. Cross linguistic influence of an L3 on L1 and L2. *Innervate leading undergraduate work in English Studies* 2: 274-283.

- Letica, S. & Mardešić, S. 2007. Cross-linguistic transfer in L2 and L3 production. In: Horváth, J. and Nikolov, M. (eds.) *UPRT 2007 Empirical studies in English applied linguistics*. Pécs: Lingua Franca Csoport.
- Leung, Y.-k. L. 2005. L2 vs. L3 initial state: a comparative study of the acquisition of French Dps by Vietnamese monolinguals and Cantonese—English bilinguals. In: *Bilingualism: Language and Cognition* 8(1): 39—61.
- Lindqvist, C. 2010. Lexical cross-linguistic influences in advanced learners' French L3 oral production. In: *International Review of Applied Linguistics in Language Teaching*. IRAL 48(2-3): 131—157.
- Lipińska, D. 2014. Second language lexical transfer during third language acquisition. In: Łyda, A. and Drożdż, G. (eds.) *Dimensions of the word*. Cambridge: Cambridge Scholars Publishing
- Littlewood, W.T. 1994. *Foreign and second language learning : language-acquisition research and its implications for the classroom*. Cambridge: Cambridge University Press.
- Llama, R., Cardoso, W. & Collins, L. 2007. The roles of typology and L2 status in the acquisition of L3 phonology: the influence of previously learnt languages on L3 speech production. In: *New Sounds 2007: Proceedings of the Fifth International Symposium on the Acquisition of Second Language Speech*
- Listeri, J. & Poch, D. 1987. Phonetic interference in bilingual's learning of a third language. In: *Proceedings of the XIth International Congress of Phonetic Sciences*. Tallinn: Academy of Sciences of Estonian SRR
- Marx, N. 2002. Never quite a "Native Speaker": Accent and identity in the L2 and the L1. In: *The Canadian Modern Language Review*, 59. 264-281.
- Meisel, J. 1983. Transfer as a second language strategy. In: *Language and Communication* 3: 11—46.
- Nowacka, M. 2010. The ultimate attainment of English pronunciation by Polish college students: a longitudinal study. In: E. Waniek-Klimczak (ed.) *Issues in accents of English 2. Variability and Norm*. Newcastle: Cambridge Scholars Publishing.
- Odlin, T. 2005. Crosslinguistic influence and conceptual transfer: what are the concepts? *Annual Review of Applied Linguistics* 25: 3-25.
- Pilus, Z. 2005. Perception of voicing in English word-final obstruents by Malay speakers of English: Examining the Perceptual Assimilation Model. In: Wijasuriya, B.S. (ed.) *Malaysian Journal of ELT Research* 1

- Ringbom, H. 1987. *The role of the first language in foreign language learning*. Clevedon: Multilingual Matters
- Rojczyk, A. 2009. Modele percepcji systemu dźwiękowego języka obcego. In: J. Ni-jakowska (ed.) *Język Poznanie Zachowanie: perspektywy i wyzwania w studiach nad przyswajaniem języka obcego*. Łódź: Wydawnictwo Uniwersytetu Łódzkiego: 120-135.
- Rojczyk, A. 2010. Forming new vowel categories in second language speech: the case of Polish learners' production of English /ɪ/ and /e/. In: *Research in Language* 8: 85-97.
- Rothman, J. & Cabrelli Amaro, J. 2010. What variables condition syntactic transfer?: A look at the L3 initial state. In: *Second Language Research* 26(2): 189—218.
- Sobkowiak, W. 2004. *English phonetics for Poles*. Poznań: Wydawnictwo Poznańskie.
- Szpyra-Kozłowska, J., Frankiewicz, J. & Gonet, W. 2002. Aspekty fonetyki angielskiej nauczane w polskich szkołach średnich. In: Sobkowiak, W. & E. Waniek-Klimczak (eds.) *Dydaktyka fonetyki języka obcego*. Zeszyty Naukowe PWSZ w Płocku .2002., 9-28.
- Szpyra-Kozłowska, J. 2008. English pronunciation pedagogy in Poland — achievements, failures and future prospects. In: E. Waniek-Klimczak (ed.) *Issues in Accents of English*. Newcastle: Cambridge Scholars Publishing: 212-234.
- Towell, R. and Hawkins, R. 1994. *Approaches to second language acquisition*. Bristol: Multilingual Matters Ltd.
- Treichler, M., Hamann, C., Schönenberger, M., Voeykova, M. & Lauts, N. 2009. Article use in L3 English with German as L2 by native speakers of Russian and in L2 English of Russian speakers. In: Bowles, M., Ionin, T., Montrul, S. & Tremblay, A. (eds.) *Proceedings of the 10th Generative Approaches to Second Language Acquisition Conference (GASLA 2009)*. Somerville, MA: Cascadilla Press.
- Tremblay, M.-C. 2006. Cross-linguistic influence in third language acquisition: the role of L2 proficiency and L2 exposure. *Cahiers Linguistiques d'Ottawa/Ottawa Papers in Linguistics* 34: 109-119.
- Tremblay, M.-C. 2008. L2 Influence on L3 or acquisition of native pronunciation: the case of voice onset time in the L3 Japanese of L1 English-L2 French bilinguals. Paper presented at the Canadian Linguistics Association Conference. Vancouver, BC.
- Williams, S. & Hammarberg, B. 1998. Language switches in L3 production: implications for a polyglot speaking model. In: *Applied Linguistics* 19. 295-333.
- Wrembel, M. 2002. Miejsce fonetyki języka angielskiego w szkole — implikacje dla kształcenia nauczycieli. In: Sobkowiak, W. and E. Waniek-Klimczak (eds.) *Dydaktyka fonetyki języka obcego*. Zeszyty Naukowe PWSZ w Płocku 2002.

- Wrembel, M. 2010. L2-accented speech in L3 production. *International Journal of Multilingualism* 7(1), 75-90.
- Wrembel, M. 2011. Cross-linguistic influence in third language acquisition of voice onset time. In: Lee, W.S. and Zee, E. (eds.) *Proceedings of the 17th International Congress of Phonetic Sciences. 17-21 August 2011. Hong Kong. CD-ROM*. Hong Kong: City University of Hong Kong, 2157-2160.
- Wrembel, M. 2013. Foreign accent ratings in third language acquisition: The case of L3 French. In Waniek-Klimczak, E. and Shockey, L. (eds.) *Teaching and researching English accents in native and non-native speakers* (pp. 31-47). Berlin: Springer.