

*Revista científica CENTROS*  
30 de julio de 2018 – Vol.7 No. 2  
ISSN: 2304-604X pp. 134- 148

*Recibido: 5/06/17; Aceptado: 30/06/18*

Se autoriza la reproducción total o parcial de este artículo, siempre y cuando se cite la fuente completa y su dirección electrónica.

<https://revistas.up.ac.pa/index.php/centros>

*indexada en*



<http://www.latindex.unam.mx/>



<http://miar.ub.edu/issn/2304-604X>



## PRONUNCIATION OF SOME CONTRASTIVE AND NON-CONTRASTIVE SEGMENTAL AND PHONOLOGICAL FEATURES OF ENGLISH BY SPANISH SPEAKERS LEARNING ENGLISH AS A SECOND LANGUAGE.

Nadila Sanjur

Profesora Titular en Lingüística de la Lengua Inglesa en el Centro Regional Universitario de Veraguas. [nsanjur@hotmail.com](mailto:nsanjur@hotmail.com)

### SUMMARY

This research was undertaken with the purpose of determining the degree of appropriateness with which junior students majoring in English as a second language at Veraguas University Branch pronounced some contrastive and non-contrastive segments and some phonological features of English that make up the backbone of the phonological system of this language. A good articulation and pronunciation of the target language sounds will ensure an effective communication which can only take place if speakers are able to encode and decode the actual and the intended message of interlocutors; in this sense, pronunciation is of fundamental importance in achieving this objective. Therefore, taking into account the trendy movement of Education in Panama towards a more bilingual country, this paper aimed at analyzing first, the occurrence of pronunciations of utterances and the assigning of non-contrastive features to the segments; second, determining the degree of first language interference or transfer; and finally, discussing the impact of proper instruction regarding the

sound system of the English language. To conduct this research, a sample of 10 out of a population of 25 junior English students from the University of Panama, Veraguas Branch were randomly selected to participate in this study. The instrument used to collect information was a reading consisting of a seven-line poem which depicted a midwestern pronunciation from the United States. They were recorded using a video camera and tape recorder to determine the position of their articulators while they were reading. After the analysis of the reading, these students demonstrated a very inaccurate production of some contrastive (in vowels) and non-contrastive English sounds and some phonological features of the language, and a heavy influence of their first language. This has serious implications for the teaching of the sound system of the English language in English schools, since communication, which is the orientation of most English programs in this country, may not be achieved if we continue neglecting the fundamentals of a right pronunciation of English in universities

**Key words:** Segment, non-contrastive, features, interference, phonology

## RESUMEN

Esta investigación se realizó con el propósito de determinar el grado de adecuación con la que los estudiantes de tercer año que estudian Inglés como segunda lengua en la Universidad de Veraguas, Centro Regional de Veraguas pronunciaban algunos segmentos contrastivos y no contrastivos y algunas características fonológicas del inglés que constituyen la columna vertebral del sistema fonológico de esta lengua. Una buena articulación y pronunciación de los sonidos de una segunda lengua garantizará una comunicación efectiva que puede tener lugar si los hablantes pueden codificar y decodificar el mensaje real y el mensaje previsto de los interlocutores; en este sentido, la pronunciación es de importancia fundamental en el logro de este objetivo. Por lo tanto, teniendo en cuenta la actual tendencia de la Educación en Panamá hacia un país más bilingüe, este trabajo tuvo como objetivo analizar en primer lugar, la ocurrencia de pronunciaciones de enunciados y la asignación de características contrastivas y no contrastivas a los segmentos; segundo, determinar el grado de interferencia o transferencia del primer idioma; y finalmente, discutir el impacto de una enseñanza adecuada del sistema de sonido del Inglés. Para llevar a cabo esta investigación, se seleccionó aleatoriamente una muestra de 10 de una población de 25 estudiantes de inglés de tercer año del Centro Regional Universitario de Veraguas para participar en este estudio. El instrumento utilizado para recopilar información fue una lectura que consistía en un poema de siete líneas que representaba una pronunciación del medio oeste de los Estados Unidos. Se grabaron usando una cámara de video y una grabadora para determinar la posición de los articuladores mientras estaban leyendo. Después del análisis de la lectura, se determinó que estos estudiantes mostraron una producción muy inexacta de algunos sonidos de inglés contrastivos y no

contrastivos y algunas características fonológicas del idioma, y una gran influencia de su primer idioma. Esto tiene serias implicaciones para la enseñanza del sistema de sonidos del inglés en las escuelas del país, ya que la comunicación, que es la orientación de la mayoría de los programas de inglés en este país, puede no lograrse si continuamos descuidando los fundamentos básicos de una correcta pronunciación del inglés en universidades.

**Palabras clave:** Segmento, no-contrastante, características, interferencia, fonología

## INTRODUCTION

Communicating in a second language is the goal of many second language programs around the world. To approach this task, special attention has been drawn to the learning and perhaps acquisition of the phonological system of that second language simply because communication begins by being able to understand a message and respond appropriately in a way that the interlocutor feels satisfied with the type of interaction that is being developed, as pointed out by Philip (1993) when he says that it is necessary to learn how to pronounce the sounds of the target language to try to sound as closer as possible to a native speaker. Likewise, Rivers and Temperly (1978) argue that if learners are not exposed to the phonological processes that are contrastive in the phonology of both languages, they can not comprehend the messages they receive. However, learning the sound system of a language different from the native one is a very complex task since learners have to go progressively through different stages of recognition, adaptation, internalization, and application of this new system alternatively to the one already fixed in their cognitive structure. The mental processes at work when trying to tell what sounds go with what words, make second language learners aware of the intricate avenues they have to take when attempting to imitate the sounds with which they are not familiarized at all (Hansen Edwards, 2014)

In this sense, there are usually two distinctive sources of problems: the one that comes from the acquisition of the structure of the target language itself, and the

ones that come from external sources, that is, from the nature and conditions of the second language learners and environment. Regarding acquisition, different authors have distinct views about how to come to master the sounds of the target language. Kenstowicz (1999) for instance, argues that phonological acquisition comes as a result of Universal Grammar, that is, learners have to be taken beyond their conscious level (learning) to a more unconscious one (acquisition) to have access to the Universal grammar of the second language. For Krashen (1982) however, this is not possible from a learning perspective; that is, for him, learning a second language would not necessarily ensure acquisition; therefore, no access to Universal Grammar. On the other hand, Hubbard, et al (1986) believed that a good pronunciation could be achieved via learning through imitation, demonstration, association, and explanation

The other source of problem seems to be due to several factors described by Brown (2007) and Aliaga-García (2007) such as: method of instruction, length of exposure to the target sounds, age, motivation, personality, and L1 influence. Research has shown that the traditional practice of repetition of sounds may need to be complemented with modern methods of instruction aided by technology; which undoubtedly fosters a more dynamic and accurate description of sounds and features. In the same way, it has been proven that longer exposure to the language makes it easier to be understood and by and large to be processed; as one of the tenets of inmersión programs: a constant exposure to distinctive sounds and assimilation processes, so that when time comes for production, the learner has already internalized the sound system. In addition to these factors, age seems to play a significant role: there seems to be a specific time to learn a second language if a native-like pronunciation is the aim. The critical period hypothesis establishes a timeline before puberty for the acquisition of a second language. After that, it becomes more difficult (Brown, 2007). Personality also plays a crucial role in SLA since learners usually have more capability to adapt themselves to the new system; while less extrovert ones have a hard time adopting new sounds. Finally, the nature of L1 seems to affect pronunciation as Gomez (2011) points out as a conclusion of a research about Spanish speakers' pronunciation. She says

that differences in the syllabic patterns of English and Spanish accounts for the difficulties in the pronunciation of English.

Assuming that exposure, imitation, right input, and explicit instruction in the sounds of English, in fact, foster learners' acquisition of English as a second language, and taking into account that all the external factors described above are fairly similar in junior English majors at CRUV, that is, they have presumably received ample instruction in the sound system of English from the same professors for three years, they have had the same amount of exposure to the second language, they are all the same age, around 21 years old, who began learning English in first grades, around 6 years old, they display a good motivation to learn English, they share the same mother tongue, and finally, their personalities are similar in the sense that they do not demonstrate shyness for not pronouncing properly; we may conclude that three years of formal and intensive exposure to English may result in learners with a good pronunciation or mastery of the sounds and phonological variants of English. Therefore, this study attempts to measure, describe, and analyze the pronunciation of some contrastive and non-contrastive segments and some phonological features or variants that are very distinctive in English and that are not present in the phonology of the Spanish Language. The ultimate goal is to determine the influence of the Spanish phonological system and the implications this has for the learning of English in Panama.

## **MATERIALS AND METHODS**

In conducting this study, a descriptive type of design was used where the present state of affairs of the oral production of junior students majoring in English at CRUV was tested, analyzed, discussed, and reported for future reference. To collect data, a reading of a seven-line poem phonetically transcribed in a Midwestern dialect of the United States was read by the participants, and a tape-recorded and a video camera were used to determine the nature of the sound produced by the participants.

The sample consisted of 10 junior English students from CRUV who had been exposed to the language for three years, and who had completed around 30 courses using English only as a means of instruction. The total population of the junior students at CRUV was 25. These students come to the English school with a very basic knowledge of English, as it is shown in the results of the admission test applied every February to the newcomers. Even though the results are very basic, the English school usually opens three groups of freshman students; so they are accepted in spite of their evident shortcomings in the language, especially in listening, grammar, and reading comprehension.

However, after three years of instruction, students usually achieve an intermediate level of proficiency in every area of the language as evidenced in the different achievement tests applied at the end of every semester. Therefore, this study will determine whether or not junior students have mastered some fundamental contrastive and non-contrastive segments and some phonological features of English, with a year ahead only to get their diploma that grants them the competences to work as English teachers in the country.

Data were collected at the end of the second semester of their third year of study last year 2016.

## RESULTS

Table1. Consonant production

SOUNDS	SECOND LANGUAGE LEARNERS	NATIVE SPEAKER
/n/	/ŋ/	[n]
/t/	[t] [t̥]	[d], [r], [ð] (non-onset position)
/r/	[r][r]	[r] [ɹ]
/s/	[s] [e]	[s] [z]
/b/ and /v/	[b]	[b][v]

There were six

six consonants analyzed in the context of the reading. An analysis of their realization is presented below.

The sound /n/. These speakers showed a clear velarization of this dental sound when they all substituted the segment [ŋ] for [n]. This phenomenon fits perfectly the Spanish segmental realization of [n] into three allophones: the velar [ŋ] in all environments except word-initial and intervocalic position where this sound is realized as [n]. In an environment preceding a dental or interdental stop [t̪], [d̪] or the fricative [θ], it assimilates into the next sound becoming the dentalized [n̪] and sometimes an interdental [n̪]. Both phenomena were observed: a velarized and a dentalized [n] where the native speaker would use the dental [n].

Regarding the /t/ sound in non-onset position, all speakers realized it as [t] and [t̪], where the alveolar voiced [d], the flapped [ɾ], or the voiced fricative [ð] had to be used instead. Again, Spanish seemed to impose its phonological traits: pronunciations of final consonants is particularly difficult for Spanish speakers to get to master since the phonology of this language is very restrictive in the occurrence of final consonants and consonant clusters. So, the most common consonants occurring in coda position are: [l], [r], [r̪], [n], [s], and [ŋ]. Some Spanish dialects have the voiced fricative [ð] as an allophonic variation of the alveolar voiced stop [d] in intervocalic, initial, and final position. This is not the case of these participants; however, they did have [ð] in initial and intervocalic position but a dentalized [t̪] in coda position. In addition, this Spanish dialect has very few voiced consonants. I believe this is a feature that seems to be gaining a position in Spanish: the devoicing of consonants whenever possible. This may be an explanation for the substitution of [d] for [t] in most words ending in [d]. There is also a tendency to unrelease most final consonants; it seems that these speakers still have problems connecting sounds across-word boundaries. Finally, the flapped [ɾ], is not realized as such in intervocalic [t] or [d].

The sound /r/. All of the participants produced the trill [r̄] and the flapped [ɾ], in different environments. [r̄] was used in word-initial and final position and before an interdental fricative or a dentalized alveolar, like in the word *first*. This distribution conforms perfectly the Spanish assimilation process, where retroflexión is not a distinctive feature; therefore, very rare occurrences of retroflexed sounds were

found throughout the passage. Also, the trill [r] and the flapped [r] are contrastive in Spanish; so were they in this reading exactly in the environment where Spanish would contrast.

The sound /s/. These speakers pronounced all the words containing /s/ as [s] in instances on which [z] was the right sound to be used. This is understandable because these participants speak a Spanish dialect that makes no distinction between [s] and [z]. It is also important to mention that all of them inserted the vowel [ɛ] in the cluster *st* in word initial position, which is again a direct interference dictated by the phonotactic constraints of Spanish. Some cases were observed on which speakers deleted the pronunciation of /s/ altogether, a clear example of the attrition feature of the Spanish /s/ to the voiceless fricative [h] to the zero realization [ə]

The sounds /b/ and /v/, like the previous minimal pairs, are not contrastive in Spanish; therefore, all of the them were pronounced as [b]. In words such as *traveler* and *gave up*, 50% of them inserted the voiced bilabial fricative [β], which is an allophonic variation of the phonemes /b/ and /v/ in intervocalic position in Spanish and in complementary distribution.

To conclude with the consonants analyzed here, there is still a strong tendency to rely on the Spanish phonological system to produce English sounds.

Table 2. Vowel production

SOUNDS	SECOND LANGUAGE LEARNER	NATIVE SPEAKER
/æ/	[a]	/æ/
/ə/	[ɛ]	/ə/
/ɪ/	[i]	/ɪ/
/ʊ/	[u]	/ʊ/

When it came to vowels, they all barely deviated from the five fundamental vowels of the Spanish sound system. All the vowels in English were adjusted to the ones



closer to the pronunciation in Spanish. This reading had many instances of the schwa sound in its four variants [ə], [ɘ], [ʌ], and [ɜ]. All of them were pronounced as [a], [ɛ] [i] and [o]. Another aspect that was not present in the speech of these speakers was vowel lengthening.

Table 3. Nasalization

SOUNDS	SECOND LANGUAGE LEARNER	NATIVE SPEAKER
Nasalized sounds: /ẽ/, /ã/, /õ/ /ĩ/ /õ/ [ẽ]	[a], [ɛ] [i] and [o].	/ẽ/, /ã/, /õ/ /ĩ/ /õ/ [ẽ]

There were 32 instances of nasalization; however, there was no elicitation of nasalized segments in any of the participants. It is important to mention that this feature is distinctive of American English where vowels are nasalized in the environment of nearby nasal sounds.

Table 4. Aspiration: onset position

ASPIRATED SOUNDS	SECOND LANGUAGE LEARNER	NATIVE SPEAKER
[k <sup>h</sup> ] [t <sup>h</sup> ]	[k] and [t] and [k <sup>h</sup> ] [t <sup>h</sup> ]	[k <sup>h</sup> ] [t <sup>h</sup> ]

There were 14 instances of aspirated voiceless stops /t/ and /k/ in the reading. They all produced the aspirated [t] followed by the retroflexed [ɻ] sound in a clear example of assimilation process of [t] into the retroflexed property of the [r] sound. In the other environments, 50% aspirated all the stops, and the other half did not. The fact that they have been exposed to the language for three years may account for the acquisition of this particular feature.

Table 5. Flapping

FLAPPED SOUND	SECOND LANGUAGE LEARNER	NATIVE SPEAKER
[r]	[t] and [d]	[r]

There were four words on which they had to flap the /t/and /d/ sounds. Only one student (1) flapped these sounds in all environments; two flapped twice, and the rest of the participants made use of their Spanish sounds /t/ and /d/. It is worth mentioning that this is a distinctive feature of the English dialect spoken in the United States which is the dialect to whom our students are exposed in the classrooms.

TABLE 6. Glottalization

SOUND	SECOND LANGUAGE LEARNER	NATIVE SPEAKER
[ʔp] or [tʔ]	[p], [t]	[ʔp] or [tʔ]

There were 7 instances of glottalized sounds in the environment of a preceding /p/ and /t/. From these, no glottalized sounds were recorded. It shows a clear interference from Spanish where this sound is not produced within the discourse, but as a non-verbal gesture to indicate doubt, agreement, disagreement, admiration, and so on.

## DISCUSSION

### Implications

This study sought to measure and analyze the actual pronunciation of some contrastive and non-contrastive English sounds depicted by junior students majoring in English as a second language in the University of Panama, Veraguas Regional Branch. The mispronunciations of some contrastive and non-contrastive

sounds were expected; however, the findings show problems at all levels, even in the pronunciation of common words. This posits a major concern for the effectiveness of instruction in English at higher levels. It means that we might be preparing our students with knowledge *about* the language, but not about the *language* itself. This is, by definition, a contradictory approach for the preparation of future language teachers, since they have to know the language to serve as models to potential English language learners.

Another implication derived from these results is the heavy influence that the Spanish sound system exerts upon the production of English sounds. Even though research has shown L1 influences in L2 acquisition (Chen, Robb, Gilbert & Lerman, 2001; Guion, Harada & Clark, 2004; Gut, 2010), the development of an interlanguage system closer to the target language pronunciation was expected. However, a native system was found to be so ingrained and automated in the linguistic structure of these second language learners that it could become very difficult to replace them by the new structures of the second language; that is, these learners could be already fossilized or in the process of developing interlanguage forms closer to Spanish not to English. Therefore, if we want L2 language learners orally competent in a second language, we need to develop in them two important skills: the understanding of oral production of any sort, and the speaking of reasonably intelligible speech forms.

### **Achievements**

With this research, we have a more detailed evidence of the shortcomings second language learners are facing in coming into grips with English sounds. This is useful in the sense that we can prepare a plan to bridge the gap between the two sound systems taking into account the areas that need more drilling, input, or knowledge.

### **Contributions**

In fact, the ultimate goal of this study was to provide a very precise account of troublesome sounds to lay the foundations for a concrete plan to improve pronunciation, and by and large, communication among students, professors,

potential employers, and native speakers when they have the need to interact. It is believed that when a problem is properly spotted, analyzed, and operationalized, corrective measures are possible and more effective than random solutions.

Another contribution of this study is the provision of facts to enlighten the perspectives of both university professors and potential teachers on the problems students are facing in the área of phonetics and phonology. Once we realize where the problems are, we will be better equipped to make decisions as to what approaches would provide better results; and in the long run, policy makers may decide to make adjustments to the existing English programs to make them more efficient in the área of listening and speaking.

### **Limitations**

This study was limited to the elicitation of some contrastive and non-contrastive English sounds because it was expected that intermediate level students would have no problems in the pronunciation of contrastive segments. In this assumption, I was partially wrong because learners showed lack of recognition of basic phonemes in context. Another limitation was the inability to measure some other important features of the spoken language, such as contractions, vowel lengthening, syllabication, and across-word boundary assimilation. This limitation was due to several factors. First, it was a poem type of reading, they were trying to be very careful in articulating every sound. Second, as Spanish speakers, they were adjusting themselves to this syllable-timed language; that is, stress is placed between syllables, and all syllables were pronounced quite at the same length. Third, and last, as a consequence of the above feature, Spanish does not allow vowel reduction as English does. It seems to be very difficult for Spanish speakers to weaken and reduce vowel sounds in most environments. All these limitations must be considered for future research to have a more comprehensive results of the actual performance of English students in the oral productions of sounds.

## CONCLUSIONS

As conclusions, we can say that there is a very clear lack of recognition of the pronunciation of some fundamental phonemes in certain environments in English. For instance, even though it was not part of this research, it could be easily noted the reduction of fricative sounds to their voiceless counterparts and the fricativization of some stops (attrition). Likewise, They hesitated when pronouncing some new words; it is understandable taking into account it was a poem.

Regarding the non-contrastive features of consonants and vowels, it can be concluded that L1 interference is heavily present in the speech of these learners. It seems that three years of intensive exposure have made not much of a difference in their speech. Finally, non-contrastive supra-segmental features are barely present in their speech. Again, there seem to be attempts to develop those features in their interlanguage, but L1 features impose themselves in their oral production.

## RECOMMENDATIONS

Based on these findings, the following suggestions are provided.

- Professors and language instructors need to know the phonetic and phonological structure of English to be able to focus properly any pronunciation task.
- A plan needs to be designed to improve pronunciation patterns based on an explicit instruction of the different contrastive and non-contrastive sound patterns in English.
- Finally, learners' exposition to the target language sound nuances so that they can match instruction with exemplification. In other words, they need to be explicitly and implicitly aware of the way the second language works.

## ACKNOWLEDGEMENT

Special thanks to junior students for their willingness to cooperate and provide the data for this study.

## REFERENCES

- Aliaga, G. C. (2007) the role of Phonetics Training in L2 speech learning. Proceedings of the phonetics teaching and learning conference. Web-procindex. Html> November 17, 2011
- Brown. D.H.(2007) Teaching by Principles. An Interactive Approach to Language Pedagogy. USA: Pearson, Longman
- \_\_\_\_\_ (2007). Principles of Language Learning and Teaching: New York: Pearson, Longman
- Chen, Y., Robb, M., Gilbert, H., & Lerman, J. (2001). Vowel production by Mandarin speakers of English. *Clinical Linguistics & Phonetics* 15(6), 427-440.
- Gomez, S. (2011) The syllable structure: Understanding Spanish speakers pronunciation of English as a L2. *Revista electrónica de Lingüística aplicada* (ISSN 1885-9089) 2011, número 10, páginas 1-7 España: Universidad de Valladolid
- Guion, S. G., Harada, T., & Clark, J. J. (2004). Early and late Spanish-English bilinguals' acquisition of English word stress patterns. *Bilingualism: Language and Cognition* 7(3), 207-226.
- Gut, U. (2010). Cross-linguistic influence in L3 phonological acquisition. *International Journal of Multilingualism* 7(1), 19-38. 27
- Hansen, E. (2014) Developmental sequences and constraints in second language phonological acquisition: Balancing language-internal and

language-external factors In J. Levis and A. Moyer (Eds.), *Social Dynamics in Second Language Accent* (p. 53-73), Boston/Berlin: De Gruyter Mouton

Hubbard, P. et al (1986). A training course for TEFL. Oxford: Oxford University Press

.Krashen (1982) *Principles and Practice in Second Language Acquisition*. Oxford: Pergamon Press.

Kenstowicz, M. (1999) *Phonology in Generative Grammar*. Cambridge: Blackwell.

Philip, C. (1993) *Phonology*. New York: Palgrave

Rivers, W. and Temperly, M. (1978). *A practical guide to the teaching of English as a second or foreign language*. New York: Oxford University Press