

PAUSES AND PITCH MOVEMENT AS STRATEGIES FOR READING ALOUD IN HIGHER EDUCATION STUDENTS

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Abstract

Reading aloud is recognized in Basic Education curricula as a key activity for fostering linguistic, artistic and creative skills. This study aims to describe the use of pauses and pitch changes as mechanisms for turn-taking during reading aloud. For that purpose, 150 bilingual Basque university students were recorded reading a narrative text. The analysis reveals that participants use pauses to signal turn changes. Statistically significant differences were found between orthographically marked pauses (T-pauses) and role-shifting pauses (P-pauses), both in frequency and duration. Contrary to Bosch et al. (2005), this study shows that P-pauses are notably longer than T-pauses, aligning with their communicative function in role demarcation. The most frequent prosodic patterns identified were HL[P]HL and H[T]H, suggesting a consistent structure in the use of prosody during reading aloud in Basque. These findings contribute to understanding the oral reading competence of future educators and have implications for teacher training in multilingual context.

Keywords: Pauses; Pitch; Reading aloud; Didactics; Primary Education

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PAUSAS Y MOVIMIENTO DE TONO COMO ESTRATEGIAS PARA LA LECTURA EN VOZ ALTA EN ESTUDIANTES DE EDUCACIÓN SUPERIOR

Resumen

La lectura en voz alta se reconoce en los planes de estudio de Educación Básica como una actividad clave para fomentar las habilidades lingüísticas, artísticas y creativas. Este estudio tiene como objetivo describir el uso de pausas y cambios de entonación como mecanismos para la toma de turnos durante la lectura en voz alta. Para ello, se grabó a 150 estudiantes universitarios bilingües vascos leyendo un texto narrativo. El análisis revela que los participantes usan pausas para señalar cambios de turno. Se encontraron diferencias estadísticamente significativas entre las pausas marcadas ortográficamente (pausas T) y las pausas de cambio de rol (pausas P), tanto en frecuencia como en duración. Contrario a Bosch et al. (2005), este estudio muestra que las pausas P son notablemente más largas que las pausas T, lo que se alinea con su función comunicativa en la delimitación de roles. Los patrones prosódicos más frecuentes identificados fueron HL[P]HL y H[T]H, lo que sugiere una estructura consistente en el uso de la prosodia durante la lectura en voz alta en euskera. Estos hallazgos contribuyen a la comprensión de la competencia en lectura oral de futuros docentes y tienen implicaciones para la formación de los y las docentes en un contexto multilingüe.

Palabras clave: Pausas; Entonación; Lectura en voz alta; Didáctica; Educación Primaria

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1. INTRODUCTION

Reading aloud has been described as «a social activity which, through intonation, pronunciation, diction, fluency, rhythm, and volume of voice, brings written text to life, giving it meaning so that the listener can dream, imagine, or express their emotions and feelings» (Cova, 2004). This practice has historically served to meet various human needs. Páez et al. (2009) reflect on the historical evolution of reading, explaining that reading aloud was a tool for learning to read in Roman times. In addition, reading at home—often performed by a slave—fulfilled a social function. In Cuba, the «lector de tabaquería» tradition (meaning «tobacco factory reader») continues to play a significant role even today; so much so that in 2012, the tradition of reading aloud was officially recognised as part of cultural heritage (Oelsner, 2018).

More recently, teachers' reading aloud has been linked to improved comprehension and student motivation (Ceyhan & Yıldız, 2021), with emphasis

on the importance of fostering reading fluency, which is defined by Rasinski (1989) as the natural oral delivery of written text, comprising three key elements: decoding, automaticity in word recognition, and the appropriate use of prosody, or effective oral expression.

The Real Academia Española (RAE, 2019a) defines prosody as the phonetic and phonological study of units of speech above phoneme level, namely syllables and other sequences within words or sentences. Nespor and Vogel (1986), drawing on the work of Liberman and Prince (1977) and Selkirk (1978), gave the elements that fall under prosody in the following hierarchical order: rhyme, syllable, foot, phonological word, phonological phrase, intonational phrase, and utterance.

Pauses are defined as «silences or vocalisations interspersed in speech» (Gil, 2007, p. 544), which means they can be either silent or audible. Silent or 'empty' pauses can be related to breathing or the interruption of phonation, whereas audible pauses, or «filled» pauses, are vowel elongations or vocalisations such as «eh» or «mm» (Llisterra, 2016). Audible pauses can include repetitions, self-corrections, repeated starts or false starts, in addition to elongations (Rose, 1998). In an analysis of audible pauses and elongations in Spanish, Machuca et al. (2015) concluded that pauses serve to signal to the listener when it is an appropriate time to take the floor, although they are also found in communicative situations where the speaker knows they will not be interrupted, sometimes more frequently.

In written text, punctuation marks are graphic symbols that aid the correct reading and interpretation of a text. More specifically, punctuation marks serve to delimit the various units of discourse in order to facilitate understanding and avoid potential ambiguities (RAE, 2019b). Studies have found that a substantial percentage of pauses should be avoided when reading aloud, as they often divide structures (phrases and words) incorrectly (Arcand et al., 2014, p. 209; Álvarez et al., 2015, p. 2; Etxebarria et al., 2016, p. 115; Godde et al., 2022, p. 2), thereby hindering comprehension of the text.

Therefore, in oral discourse, what helps to prevent potential comprehension difficulties is the correction of inappropriate pauses and the change in Fo (fundamental frequency) before a pause (Benjamin & Schwanenflugel, 2010; Miller & Schwanenflugel, 2006, 2008; Schwanenflugel et al., 2004). That is, the change in boundary tone before and after a pause, which refers to the fluctuations in pitch that occur at the end of an intonational phrase (Prieto, 2015). In the Autosegmental-Metrical model (Pierrehumbert, 1980; Ladd, 1996) these tonal units are represented by H (High) and L (Low) tones and can be monotonal or

bitonal. An asterisk (*) indicates a high pitch or its association with the stressed syllable, while the symbol % marks the boundary at the end of a phrase or prosodic group (Hualde, 2003; Prieto, 2015). There is also a boundary tone that some earlier work represented as M% to indicate a final mid pitch contrasting with final rise and fall (Hualde, 2003). However, in the Autosegmental-Metrical model applied to Spanish (Spanish ToBI), the M% notation is no longer used. Instead, what was previously transcribed as M% is now analyzed as a downstepped H% tone (!H%), that is, a high boundary tone performed with a lower pitch than a regular H% (Elordieta, 2011; Frola & Prieto, 2015; Hualde & Prieto, 2015). For example, a study of boundary tones in the seven Basque-speaking provinces reported combinations such as H%, L%, M%, HL%, and LH% (Gaminde et al., 2014). In current Spanish ToBI notation, the tokens they labeled as M% would correspond to !H%. In earlier studies (Gaminde et al., 2014; Gaminde et al., 2015), this tone was found to occur more frequently in spontaneous speech than in reading aloud. Cestero (1994, p. 21) describes pitch movement as the “fundamental or primary components that signal or indicate points of transition” in spontaneous dialogue. The main objective of this work is to describe the number of pauses and their duration in reading, as well as the tonal movements, in order to characterise the role change, referred to as ‘turn’ in spontaneous dialogue. For that purpose, we have recorded students reading aloud a brief narrative text,⁵ chosen because it is a familiar genre and the one that has been used most (Valdés, 2022) by primary education teachers.

2. CORPUS AND METHODOLOGY

To gather the corpus under study, 150 bilingual Basque university students were selected, of whom 110 were women and 40 were men. Of the 150 students, 115 had acquired the Basque language in a school environment, and 35 at home.

Recordings were carried out in a designated reading lab, using Marantz PMD620 and ZOOMH4 recorders and an external microphone. Below is the text that participants were asked to read (Table 1):

5. The text is provided by *Badihardugu Euskara Elkartea* on their website: <https://ahotsak.eus>.

Text in Basque	English translation
Peruk zeukan oholezko etxea, Mariak zeukan gatzetzkoa.	Peru had a house made of wood; Maria had one made of salt.
Peruk Mariari: «Emaidazu gatz pixkatxo bat» eta «Ez!»	Peru said to Maria: «Give me some salt» and she said «No!»
Ekarri zuen euri zaparrada handia. Urtu zitzaion Mariari etxea eta gero Peruren etxera joan zen, oholezko etxera.	There was a big rainstorm, and Maria's house dissolved, so she went to Peru's house, to the wooden house.
Eta ez zuen hartu. «Zeuk ere ez didazu gatzik eman, ezta? Orain egin lo kalean.»	However, he did not open the door. «Well, you didn't give me any salt either, did you? Now you're going to sleep out on the street.»

Table 1: Text read aloud by participants

In the narrative text that the bilingual Basque university students read aloud, two types of pauses were identified: 1) P-pauses, which allow a change of turn between the characters, and 2) T-pauses, which correspond to punctuation marks indicating a stop or pause but do not lead to a change of turn. Table 2 shows that the text contains twelve potential pauses: seven of them are indicated by punctuation, where a pause can be inserted (T1, T2, T3, T4, T5, T6 and T7); and the other five allow a change of role from one character to another (P1, P2, P3, P4, and P5).

Peruk zeukan oholezko etxea, T1 Mariak zeukan gatzetzkoa. T2
Peruk Mariari: P1 «Emaidazu gatz pixkatxo bat» P2 eta P3 «Ez!» P4
Ekarri zuen euri zaparrada handia. T3 Urtu zitzaion Mariari etxea eta gero Peruren etxera joan zen, T4 oholezko etxera. T5
Eta ez zuen hartu. P5 «Zeuk ere ez didazu gatzik eman, T6 ezta? T7 Orain egin lo kalean.»

Table 2. Representation of T and P pauses

After giving participants a few moments to become familiar with the text, they were asked to read it aloud, and recording began. The recorded texts were processed and transcribed using Praat software (Boersma & Weenink, 2023). Changes in the fundamental frequency curve before and after the pauses were marked, using autosegmental-metrical notation and the duration of the pauses was also observed. The collected data were then analysed.

3. RESULTS

In accordance with the objectives outlined in the previous section, three kinds of findings were examined with the aim of characterising changes in role during the reading aloud of a short story: 1) the number of pauses, 2) the duration of the pauses, and 3) pitch movement.

3.1. *Number of pauses*

The results obtained regarding the two types of pauses are presented in Table 3, which shows the number of each type, its duration range, as well as the mean and standard deviation.

Type of pause	Number	Range	Mean duration	Standard deviation
T ₁ (comma)	150	0.005–1.054	0.398	0.196
T ₂ (full stop)	150	0.119–2.202	0.779	0.287
T ₃ (full stop)	150	0.065–1.726	0.597	0.268
T ₄ (comma)	148	0–1.680	0.380	0.200
T ₅ (full stop)	150	0.280–1.793	0.892	0.308
T ₆ (comma)	39	0–0.402	0.039	0.079
T ₇ (full stop)	150	0.051–1.006	0.466	0.209
P ₁	150	0.005–1.099	0.525	0.235
P ₂	146	0–1.105	0.388	0.221
P ₃	128	0–1.078	0.236	0.212
P ₄	150	0.282–2.088	0.902	0.333
P ₅	150	0.080–1.868	0.615	0.274

Table 3. Number, mean duration and standard deviation for each type of pause

Figures 1 and 2 provide a visual representation of these results. Figure 1 shows the number of pauses produced at each position, while Figure 2 illustrates the distribution of pause durations.

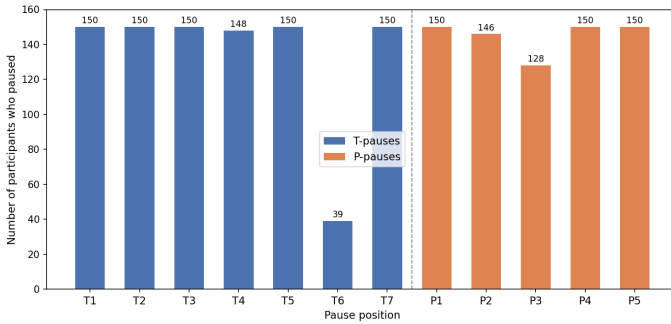


Figure 1. Number of actual pauses per position

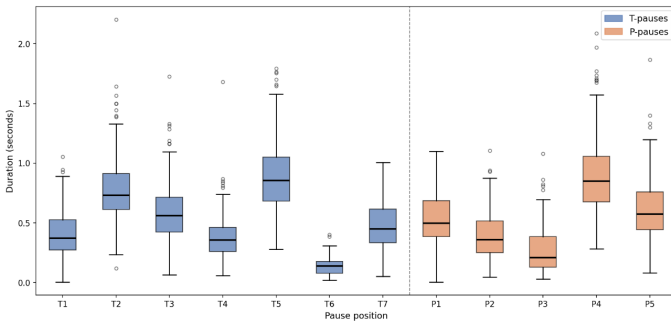


Figure 2. Duration of pauses per position

As can be seen in Table 3 and Figures 1 and 2, the least frequent T-pause is the T6 comma in the sentence that ends with a question tag requesting confirmation of what was previously stated: «Zeuk ere ez didazu gatzik eman, T6 ezta?» («Well, you didn’t give me any salt either, did you?»). Similarly, P3 is the least frequent P-pause, presumably because it occurs between two monosyllabic words and the readers did not feel the need to pause. From these data, we infer that most punctuation-marked positions were realized as pauses by most of speakers, although individual variation was observed.

To check for statistically significant differences in the number of pauses made, we calculated the proportion of T-pauses and P-pauses, where 0 indicates none and 1 indicates the total possible pauses (7 for T-pauses and 5 for P-pauses).

In order to analyse whether this difference can be considered significant, we performed a Kolmogorov-Smirnov normality test on both variables. The outcome (Table 4) indicates that they do not follow a normal distribution. Furthermore, we tested various transformations (decimal logarithmic, natural logarithmic,

and square root transformation), but all of them were unsatisfactory for the two variables created.

		Kolmogorov-Smirnov Test for a Sample							
		Mean number of pauses T	Mean number of pauses P	log_mean_pauses_T	ln_mean_pauses_T	SQRT_mean_pauses_T	log_mean_pauses_P	ln_mean_pauses_P	SQRT_mean_pauses_P
N		150	150	150	150	150	150	150	150
Normal Parameters ^{a,b}	Mean	,9924	,9653	-,0506	-,1165	,9440	-,0170	-,0391	,9816
	Std. Deviation	,06607	,07942	,03143	,07238	,03455	,03940	,09073	,04237
Maximum Extreme Differences	Absolute	,443	,502	,439	,439	,441	,500	,500	,501
	Positive	,443	,331	,439	,439	,441	,333	,333	,332
	Negative	-,284	-,502	-,288	-,288	-,286	-,500	-,500	-,501
Test Statistic		,443	,502	,439	,439	,441	,500	,500	,501
Asymptotic Sig. (bilateral)		,000 ^c	,000 ^c	,000 ^c	,000 ^c	,000 ^c	,000 ^c	,000 ^c	,000 ^c

a. The test distribution is normal.
b. Calculated from data.
c. Lilliefors significance correction.

Table 4. Normality test of the variables and their transformations

Thus, to conduct the significance analysis, we finally opted for the non-parametric Wilcoxon test for paired data. The result (Table 5) shows that both types of pauses were made by the majority of the participants, with an average of 96.5% for P-pauses and 89.2% for T-pauses. This difference is statistically significant. A parametric test, the paired Student's t-test, was also conducted and confirmed this result ($p < 0.001$), which reinforces the reliability of the obtained result.

	Mean	Standard deviation	Difference in means	p-value*
Proportion of P-pauses	0.9653	0.0794	0.0729	< 0.001
Proportion of T-pauses	0.8924	0.0667		
*Obtained using Wilcoxon signed-rank test				

Table 5. Comparison of the mean proportions of P- and T-pauses realised

3.2. Pause duration

We calculated the mean duration of the 7 T-pauses and the 5 P-pauses (Table 3). To analyse whether the observed difference can be considered significant, we conducted a normality test on both variables using the Kolmogorov-Smirnov test.

The outcome (Table 6) indicates that they do not follow a normal distribution. Additionally, we tested various transformations (decimal logarithmic, natural logarithmic, and square root transformation), but all of them were unsatisfactory for the T-pause duration variable.

Kolmogorov-Smirnov Test for a Sample

		MEAN_T	LN_T	Log_T	SQRT_T	MEAN_P	LN_P	Log_P	SQRT_P
N		150	150	150	150	150	150	150	150
Normal Parameters ^{a,b}	Mean	,5077	-,7320	-,3179	,7032	,5335	-,6990	-,3036	,7179
	Std. Deviation	,16582	,33929	,14735	,11534	,20006	,38475	,16710	,13525
Maximum Extreme Differences	Absolute	,118	,088	,088	,086	,107	,065	,065	,071
	Positive	,118	,054	,054	,086	,107	,034	,034	,071
	Negative	-,080	-,088	-,088	-,078	-,037	-,065	-,065	-,042
Test Statistic		,118	,088	,088	,086	,107	,065	,065	,071
Asymptotic Sig. (bilateral)		,000 ^c	,007 ^c	,007 ^c	,009 ^c	,000 ^c	,200 ^{c,d}	,200 ^{c,d}	,059 ^c

- a. The test distribution is normal.
- b. Calculated from data.
- c. Lilliefors significance correction.
- d. This is a lower bound of the true significance

Table 6. Normality test of the variables and their transformations

Thus, as in the previous case, we finally decided to conduct the significance analysis using the non-parametric Wilcoxon test for paired data. The result (Table 7) shows that P-pauses (533 ms) are significantly longer than T-pauses (507 ms), a difference of 26 ms. This result would have been replicated if a parametric test such as the paired Student’s t-test had been used ($p = 0.008$), once again reaffirming the result obtained.

	Media	Standard deviation	Difference in means	p-value*
Duration of P-pauses	0.5335	0.2000	0.0258	0.02
Duration of T-pauses	0.5077	0.1658		
*Obtained using Wilcoxon signed-rank test				

Table 7. Comparison of the mean durations of P- and T-pauses

3.3. Pitch movements

The pitch movements at the beginning and end of the pauses were analysed in order to determine whether they were related to a change of role, as well as if there were significant differences between the different types of pauses. It should be noted that in this study we did not check the influence that stress might have had; therefore, it remains beyond the scope of this study whether the presence of stressed or unstressed syllables immediately before or after the pauses may have influenced the pitch movements.

Table 8 shows the pitch movements at the start and end of the pauses, taking into account the type of pause:

Type of pause	Text	L	HL	H	LH	!H
T1final	etxea,	138	1	6	0	3
T1initial	Mariak	1	9	132	5	3
T2final	gatzekoa,	143	0	5	2	0
T2initial	Peruk	31	17	87	0	15
P1final	Mariari:	146	0	2	0	2
P1initial	emaidazu	0	75	75	0	0
P2final	bat	116	18	7	0	5
P2initial	eta	132	1	2	1	11
P3final	eta	125	0	2	0	9
P3initial	ez	97	32	3	1	3
P4final	ez	109	33	3	1	3
P4initial	ekarri	3	5	134	3	5
T3final	handia.	138	2	2	1	7
T3initial	urtu	3	6	128	3	10
T4final	zen,	131	0	7	3	4
T4initial	oholezko	20	36	77	1	16
T5final	etxera.	135	0	6	1	4
T5initial	eta	30	3	59	5	53
P5final	hartu	125	2	5	0	17
P5initial	zeuk	17	6	58	0	68
T6final	eman,	25	10	4	0	0
T6initial	ezta?	2	0	147	0	1
T7final	ezta?	2	0	147	0	1
T7initial	orain	1	15	130	0	4

Table 8. Pitch movement for each pause type

Table 9 shows the final boundary tones produced before T- and P-pauses:

	L	HL	H	LH	!H%	
P final	85.1% (621)	7.3% (53)	2.6% (19)	0.1% (1)	4.9% (36)	100% (730)
T final	76.7% (712)	1.4% (13)	19.1% (177)	0.8% (7)	2% (19)	100% (928)

Table 9. Association between pause type and final boundary tone

The data show a significant association between pause type and final boundary tone ($\chi^2 = 146.01$; p -value < 0.001 ; $V = 0.297$) of moderate strength. There is a considerably higher prevalence of HL tones in final P-pauses than in final T-pauses (7.3% versus 1.4%). Additionally, the results indicate a markedly higher percentage of H tones in final T-pauses compared to final P-pauses (19.1% versus 2.6%).

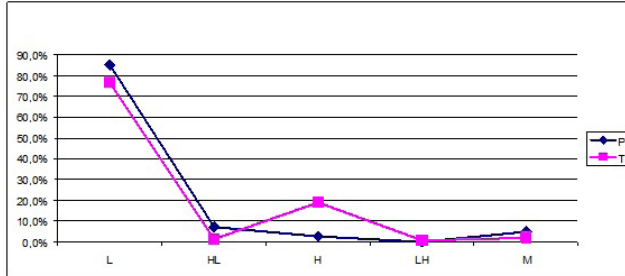


Figure 3. Percentage of final boundary tone types

Table 10 shows initial boundary tones produced after T and P-pauses:

	L	HL	H	LH	!H	
P initial	34% (249)	16.3% (119)	37.2% (272)	0.7% (5)	11.9% (87)	100% (732)
T initial	8.4% (88)	8.2% (86)	72.4% (760)	1.3% (14)	9.7% (102)	100% (1050)

Table 10. Association between pause type and initial boundary tone.

The data show a significant association ($\chi^2 = 270.3$; p -value < 0.001 ; $V = 0.389$) of moderate strength. There is a substantially higher prevalence of L tones in initial P-pauses compared to initial T-pauses (34% versus 8.4%). Meanwhile, the results also indicate a notably higher percentage of H tones in initial T-pauses than in initial P-pauses (72.4% versus 37.2%).

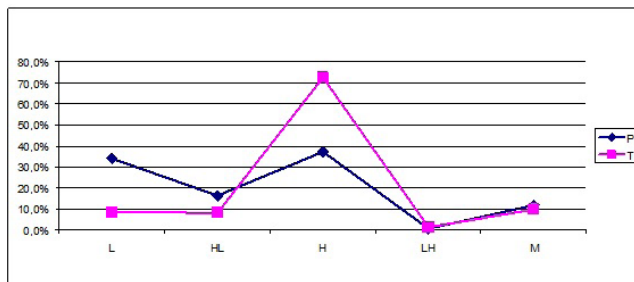


Figure 4. Percentage of initial boundary tone types

4. CONCLUSIONS AND DISCUSSION

In primary school classrooms, the reading aloud of texts, both by teachers and students, forms the foundation for comprehensible and meaningful learning. The non-university academic regulations for Basic Education (Decreto 77/2023, de 30 de mayo) establish reading aloud within the realm of language and literature as one of several activities that serve to create texts with a playful, artistic, and creative goal:

It is proposed that work is carried out in the classroom using a selection of literary texts suited to the interests and needs of children, in various formats, which will be organised around reading paths based on various criteria (by theme, literary genre, etc.) so that students can make connections between them and begin constructing an initial literary map. These texts, in addition to being the starting point for various activities (listening to texts; guided, accompanied, or independent reading, silent or aloud, with appropriate intonation and rhythm; dramatised reading, recitation, rhetorical games, etc.), will also serve as models for other texts with a playful, artistic, and creative aim, as well as for establishing dialogues encompassing other artistic and cultural expressions.

Therefore, we must work on reading aloud in the classroom as a professional skill for future teachers, from linguistic (lexical, semantic, syntactic, and pragmatic components), non-linguistic (expression of intentions and attitudes), and paralinguistic (manifestation of emotions) perspectives (Fujisaki, 2004). Therefore, they can stir emotions and leave a mark, telling stories that inspire dreams and imagination, as well as teach through explanatory texts, and provide instructions for playing.

One characteristic of narrative texts, such as stories, is the dialogue between different characters through distinct interventions, where two separate interventions by the same speaker occur (Briz, 2006). This shift in interventions can happen without a change in voice, or the boundary between one intervention and the next can be marked by mechanisms like pauses and boundary or initial tones. In spontaneous speech, prosodic features gain importance, such as final intonation, final syllable duration, pitch fall, and sonority, in addition to gestural and syntactic characteristics (Duncan, 1972, 1974, as cited in Levinson & Torreira, 2015). The Grupo Val.Es.Co. (2014) identifies the pause as one of the most crucial elements for delineating coherent structural units, known as prosodic groups, which define acts.⁶

6. "It is necessary to pay attention to prosodic markers such as pauses, the presence of a complete melodic contour, or the use of marked final intonation in declarative statements (with an ascending or suspended tone), as these may be crucial in considering a structure as an act." (Grupo Val.Es.Co, 2014: 47)

According to the Grupo Val.Es.Co. (2014), drawing on Cabedo (2009, 2011), there are four prosodic factors that function as demarcative resources, segmenting discourse into acts: tonal inflection, duration, tonal adjustment with the following intonational unit, and pause. Intonation plays a key role in predicting changes in turn-taking during spontaneous speech. Holler et al. (2016) cited several studies (Keitel et al., 2013; Lammertink et al., 2015) showing that 2- and 3-year-old children use prosodic signals to determine when these changes occur. On the topic of pauses between acts, Levinson and Torreira (2015, p. 11) outline a series of rules in spontaneous, unprepared conversations, predicting that pauses within a single speaker's turn are longer than those between speakers; they provide specifics on how much longer, referencing work by Bosch and colleagues in 2005:

Bosch et al., 2005 report gaps between continuations by the same speaker to be about 140 ms (c. 25%) longer than the average gap in turn transitions between different speakers.

Taking into account this characterisation of spoken language, we have analysed pauses and pitch changes as strategies or mechanisms for turn-taking in reading aloud. The results of our study demonstrate that pauses are indeed used as a strategy for role or turn changes, and statistically significant differences are shown, both in terms of frequency and duration, between orthographically marked pauses (T-pauses) and those that allow a role-shift (P-pauses).

As for the pitch movements before and after prosodic groups, we observe a significantly greater prevalence of HL tones in final P-pauses compared to final T-pauses. Additionally, the results also show a significantly higher percentage of H tones in final T-pauses than in final P-pauses. Meanwhile, there is a significantly greater prevalence of HL tones in initial P-pauses compared to initial T-pauses, and a significantly higher percentage of H tones in initial T-pauses compared to initial P-pauses.

If we compare the results of the present study with those of Bosch et al. (2005), the observations about reading aloud do not match, since our analysis shows that P-pauses are significantly longer than T-pauses. This elongation coincides with the role shift represented by the pauses. As a summary of what has been said, we can identify the following sequences as the most common when reading aloud: HL[P] HL and H[T]H.

AUTHOR CONTRIBUTION STATEMENT

All authors contributed to the study conception and design. Material preparation, data collection and analysis were performed by Aintzane Etxebarria, Aitor Iglesias, Ariane Ensunza and Juan Abasolo. The first draft of the manuscript was written by Aintzane Etxebarria and all authors commented on previous versions of the manuscript. All authors read and approved the final manuscript.

ETHICAL STATEMENT

All data has been collected under the consent of the participants and all of them have been fully informed that their anonymity is assured, why the research is being conducted and how their data will be used. This study was approved by the research ethics committee of the he University of the Basque Country (UPV/EHU) and performed in accordance with the ethical standards as laid down in the 1964 Declaration of Helsinki and its later amendments or comparable ethical standards

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REFERENCES

- Álvarez, M., Suárez, P., & Cuetos, F. (2015). The role of reading fluency in children's text comprehension. *Frontiers in Psychology*, *6*, 1483.
DOI: <https://doi.org/10.3389/fpsyg.2015.01810>
- Arcand, M. S., Dion, E., Lemire-Théberge, L., Barrette, A., Gesdyne, A., Lefebvre, P., & Desrochers, A. (2014). Segmenting texts into meaningful word groups: Beginning readers' prosody and comprehension. *Scientific Studies of Reading*, *18*, 208-223.
DOI: <https://doi.org/10.1080/10888438.2013.864658>
- Badihardugu Euskara Elkarte. (2025, May 5). Ahotsak.eus. Euskal Herriko hizkerak eta ahozko ondarea. *Ahotsak.eus*. <https://ahotsak.eus>
- Benjamin, R. G. & Schwanenflugel, P. J. (2010). Text complexity and oral reading prosody in young readers. *Reading Research Quarterly*, *45*, 388-404.
- Boersma, P. & Weenink, D. (2023). *Praat: doing phonetics by computer* (Version 6.3.10) [Computer software]. <http://www.praat.org/>
- Bosch, L., Oostdijk, N. & Boves, L. (2005). On temporal aspects of turn-taking in conversational dialogues. *Speech Communication*, *47*, 80-86.
DOI: <https://doi:10.1016/j.specom.2005.05.009>
- Briz, A. (2006). La segmentación de una conversación en diálogos. *Oralia*, *9*, 45-71.
- Cabedo, A. (2009). *La segmentación prosódica en español coloquial*. Valencia: Quaderns de Filologia de la Universidad de Valencia.

- Cabedo, A. (2011). Hacia un modelo predictivo para la segmentación prosódica del discurso oral coloquial: MESTEL (Modelo estadístico para la selección de términos entonativos ligados). *Oralia: Análisis del discurso oral*, 14, 85-104.
- Cestero Mancera, A. M. (1994). Intercambios de turnos de habla en la conversación en lengua española. *Revista Española de Lingüística*, 24(1), 77-100.
<http://revista.sel.edu.es/index.php/revista/article/view/1391>
- Ceyhan, S., & Yıldız, M. (2021). The effect of interactive read aloud on student comprehension, reading motivation, and reading fluency. *International Electronic Journal of Elementary Education*, 13(4), 421-431.
<https://files.eric.ed.gov/fulltext/EJ1298033.pdf>
- Cova, Y. (2004). La práctica de la lectura en voz alta en el hogar y la escuela a favor de niños y niñas. *Sapiens, Revista Universitaria de Investigación*, 5(2), 53-66.
- Decreto 77/2023, de 30 de mayo, de establecimiento del currículo de educación básica e implantación en la Comunidad Autónoma de Euskadi. *Boletín Oficial del País Vasco, núm. 109*, de 9 de junio de 2023, 1-390.
<https://www.euskadi.eus/web01-bopv/es/bopv2/datos/2023/06/2302729a.pdf>
- Duncan, S. D. (1972). Some signals and rules for taking speaking turns in conversation. *Journal of Personality and Social Psychology* 23(2), 283-292.
 DOI: <https://doi.org/10.1037/h0033031>
- Duncan, S. D. (1974). On the structure of speaker-auditor interaction during speaking turns. *Language in Society*, 3(2), 61-180. DOI: <https://doi.org/10.1017/S0047404500004322>
- Elordieta, G. (2011). [Review of the book *Transcription of intonation of the Spanish language*, by P. Prieto & F. Roseano]. *Estudios de Fonética Experimental*, 20, 273-293.
- Etxebarria, A., Gaminde, I., Romero, A. & Iglesias, A. (2016). Desarrollo de la competencia prosódica en la lectura en voz alta: importancia de las pausas. *Ocnos. Revista de Estudios sobre Lectura*, 15(2), 110-118.
- Frota, S., & Prieto, P. (eds.). (2015). *Intonation in Romance*. Oxford University Press.
 DOI: <https://doi.org/10.1093/acprof:oso/9780199685332.001.0001>
- Fujisaki, H. (2004). *Information, prosody, and modeling. Proceedings of speech prosody*. Nara.
- Gaminde, I., Romero, A., Garay, U. & Etxebarria A. (2014). Los tonos de frontera de las oraciones interrogativas pronominales producidas por hablantes bilingües precoces en vasco y español. *Zeitschrift für romanische Philologie*, 130, 105-120.
- Gaminde, I., Etxebarria, A., Aurrekoetxea, G., Garay, U. & Romero, A. (2015). Influencia de la variación diatópica y la lengua materna en la percepción de emociones en la lengua. *Círculo de Lingüística Aplicada a la Comunicación*, 63, 152-172.
- Gil, J. (2007). *Fonética para profesores de español: De la teoría a la práctica*. Arco Libros.
- Godde, E., Bailly, G., & Bosse, M. L. (2022). Pausing and breathing while reading aloud: Development from 2nd to 7th grade. *Reading and Writing: An Interdisciplinary Journal*, 35, 1-27. DOI: <https://doi.org/10.1007/s11145-021-10168-z>
- Grupo Val.Es.Co. (2014). Las unidades del discurso oral. La propuesta Val.Es.Co. de segmentación de la conversación (coloquial). *Estudios de Lingüística del Español*, 35, 1, 11-71.

- Holler, J., Kendrick, K. H., Casillas, M. & Levinson, S. C. (Eds.). (2016). *Turn-taking in human communicative interaction*. Lausanne: Frontiers Media.
- Hualde, J. I. (2003). El modelo métrico y autosegmental. In P. Prieto (Ed.), *Teorías de la entonación* (155-184). Ariel.
- Hualde, J. I., & Prieto, P. (2015). Intonational variation in Spanish: European and American varieties. In S. Frota & P. Prieto (Eds.), *Intonation in romance* (350-391). Oxford University Press. DOI: <https://doi.org/10.1093/acprof:oso/9780199685332.001.0001>
- Keitel, A., Prinz, W., Friederici, A. D., von Hofsten, C. & Daum, M. M. (2013). Perception of conversations: the importance of semantics and intonation in children's development. *Journal of Experimental Child Psychology*, 116, 264-277. DOI: <https://doi.org/10.1016/j.jecp.2013.06.005>
- Ladd, D. R. (1996). *Intonational Phonology*. Cambridge University Press.
- Lammertink, I., Casillas, M., Benders, T., Post, B. & Fikkert, P. (2015). Dutch and English toddlers' use of linguistic cues in predicting upcoming turn transitions. *Frontiers in psychology*, 6, 1-18. DOI: <https://doi.org/10.3389/fpsyg.2015.00495>
- Levinson S. C. & Torreira F. (2015). Timing in turn-taking and its implications for processing models of language. *Frontiers in psychology*, 6. DOI: <https://doi.org/10.3389/fpsyg.2015.00731>. PMID: 26124727; PMCID: PMC4464110
- Lieberman, A. M., & Prince, A. (1977). On stress and linguistic rhythm. *Linguistic Inquiry*, 8, 249-336.
- Llisterri, J. (2016). Los elementos suprasegmentales. <https://joaquimllisterri.cat/>
- Machuca, M. J., Llisterri, J. & Ríos, A. (2015). Las pausas sonoras y los alargamientos del español: Un estudio preliminar. *Revista Normas*, 5, 81-96.
- Miller, J. & Schwanenflugel, P. J. (2006). Prosody of syntactically complex sentences in the oral reading of young children. *Journal of Educational Psychology*, 98(4), 839-853.
- Miller, J. & Schwanenflugel, P. J. (2008). A longitudinal study of the development of reading prosody as a dimension of oral reading fluency in early elementary school children. *Reading Research Quarterly*, 43(4), 336-354.
- Nespor, M. & Vogel, I. (1986). *Prosodic phonology*. Dordrecht: Foris
- Oelsner, N. (2018, October 4). "Lectores de tabaquería", una profesión en Cuba. *Euronews*. <https://es.euronews.com/2018/10/04/lector-de-tabaqueria-una-profesion-en-cuba>
- Páez, M., Roque, K. & Mirabal, A. C. (2009). La lectura: un acercamiento a su evolución histórica y su conceptualización. *Mendive. Revista de Educación*. 7(3), 194-200.
- Pierrehumbert, J. (1980). *The Phonology and Phonetics of English Intonation* [Doctoral dissertation, Massachusetts Institute of Technology].
- Prieto, P. (2015). Intonational meaning. *Wiley Interdisciplinary Reviews: Cognitive Science*, 6, 371-381.
- Rasinski, T. (1989). Effects of repeated reading and listening-while-reading on reading fluency. *Journal of Educational Research*. August, 83(3), 147-150.
- Real Academia Española. (2019a). *Diccionario de la lengua española* (23a ed.). <https://www.rae.es>
- Real Academia Española. (2019b). *Diccionario panhispánico de dudas. Signos ortográficos* (2ª ed.). <https://www.rae.es/dpd/signos-ortograficos>

- Rose, R. (1998). *The communicative value of filled pauses in spontaneous speech* [Doctoral dissertation, University of Birmingham].
<http://www.roselab.sci.waseda.ac.jp/resources/file/madissertation.pdf>
- Schwanenflugel, P. J., Hamilton, A. M., Kuhn, M. R., Wisenbaker, J. M., & Stahl, S. A. (2004). Becoming a fluent reader: Reading skill and prosodic features in the oral reading of young readers. *Journal of Educational Psychology, 96*(1), 119-129.
- Selkirk, E. O. (1978). On prosodic structure and its relation to syntactic structure. In T. Fretheim (Ed.), *Nordic Prosody II*. (pp. 111-140) Trondheim: Tapir.
- Valdés, G. (2022). Producción de textos narrativos en el aula de historia: análisis lexicométrico de una propuesta interdisciplinar. *Onomázein, 55*, 32-49.