Articulatory Difficulties in the Acquisition of Spanish /r/ in a Bilingual Context

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1. Introduction

The goal of this study is to pilot test an instructional approach, Processing Instruction (PI), originally designed to teach second language grammar, in teaching second language pronunciation. This instructional approach is based on the Input Processing (IP) model (VanPatten, 1996) and consists of exposing learners to strategically controlled drills that require their active attention to the input in order to attach meaning to it. Production is delayed until later phases, in the hope that by the time learners are asked to produce the target language, they would have already processed its grammatical system, therefore becoming capable of accurately producing grammatically correct language. By adapting this instructional approach to the teaching of pronunciation in this study, the assumption is that if we expose learners to strategically controlled drills that require their active attention to aural input in order to attach meaning to it, learners will process and intake the target language phonological system, and therefore will become capable of producing phonologically accurate pronunciation.

As a way of pilot-testing this adaptation of the PI approach, originally thought of to be implemented in a classroom setting, activities have been designed to help a Spanish-English bilingual child overcome certain articulatory difficulties in producing the /r/ segment in one of her two languages, namely Spanish. The difficulties might very well stem from the bilingual situation of the subject, since the pronunciation of bilingual individuals is affected by the phonological systems of the two languages involved (INSERSO 1979; Major 2001). In addition, Khattab (2002), in her study of the acquisition of /r/ by bilingual speakers of English and Arabic points out:

The mental representation of two languages for a bilingual is clearly different from that of a monolingual but certainly not the simple combination that would result from compiling two systems into a place normally assumed as being occupied by one. The languages of bilingual children need not be, nor are they likely, to develop entirely autonomously or interdependently.

Although it is very difficult for young bilingual speakers of English and Spanish to master the /r/ sound in either language, the subject in this study did not show any apparent difficulty in producing the English /r/, but she did when producing the Spanish /r/. This might be due to the fact that the articulation of /r/ in English and Spanish is very different (Delattre, 1965): English /r/ is a retroflex continuant (represented by “r” –as in “rat”), whereas Spanish /r/ is either a tap (represented by “r” –as in the Spanish word “aro” ‘ring’) or as a trill (represented by “r” in initial position –as in the Spanish word “rico” ‘rich’– or by ‘rr’ in intervocalic position –as in “arriba,” ‘up.’) The articulation of English /r/ is not as complex as the Spanish /r/ and does not require as much articulatory effort as the Spanish counterpart does. In addition, it is particularly difficult for learners of Spanish as a foreign language to master the trilled articulation of /r/, given its greater complexity (Hammond 1999, 2000). Some linguists point out that the trilled pronunciation of Spanish /r/ is overrated, and that it should be considered not more than an allophonic variation of the tap /r/ (Hammond 1999, 2000a, 2000b; Nuñez Cedeño 1989). Some of the reasons argued are that the two sounds contrast only in intervocalic environments (Hammond 1999: 135), and that the trilled /r/ does not occur in the speech of the vast majority of native Spanish speakers (Hammond 1999: 147) It is beyond the scope of this study to solve this argument, so for the purpose of pilot-testing the instructional approach with which we are concerned, the two pronunciations of Spanish /r/ --be they phonemic or allophonic—are being
targeted, since the Spanish variety to which the subject is mainly exposed makes full use of both sounds in phonemic contrast. Khattab (2002) points out that “there is no simple stable phonological model that any child is exposed to,” so she recommends to take into consideration the kind of phonological input subjects are exposed to when studying their phonological development. In the current study, not only the Spanish variety to which the subject is exposed at home from her mother has been taking into consideration, but also that of the additional input received through media (videos, music, computer games…) and the occasional Spanish-speaking friend. The input from this social network happens to also separate the two target sounds /r/ and /rr/ consistently.

In addition, there are Spanish linguistic contexts in which the mispronunciation of both tap and trill sounds might lead to miscommunication. This is particularly true in the case of pairs of words that differ only in these two sounds (minimal pairs), such as “pera” ‘pear’ and “perra” ‘female dog.’ Even when the situational context might help dismiss this type of confusion, the mere presence of a heavy foreign accent will interfere with effective communication (Munro, 1998; McCall, 2001). If the experimental treatment pilot-tested here proves to be effective in helping the Spanish-English bilingual subject in this study to overcome the articulatory difficulties of Spanish /r/, it might be expected to similarly help overcoming this and other articulatory difficulties that Spanish pronunciation might pose to English speakers. By enlarge, the experimental treatment might be deemed appropriate to address other pronunciation problem that learners of foreign languages in general might encounter in their learning process.

2. Previous Studies

As early as 1941, Jakobson already had indicated that /r/ was among the last of the phonemes learned in the speech of children. Later studies in both monolingual and bilingual phonological acquisition (Ruke-Dravina, 1965; Montes-Giraldo, 1971; Hernández-Pina, 1984) confirm Jakobson’s findings. After reviewing more recent sources it can be safely said that /r/ is one of the sounds latest acquired by Spanish-English bilingual speakers, and this acquisition occurs not earlier than their 5th birthday (Goldstein & Iglesias 1996; Mann & Hodson 1994), or even later according to other authors (Jiménez, 1987; Khattab, 2002). Jiménez (1987) reported an age difference on the acquisition of the Spanish tap /r/ and trilled /rr/ by her subjects, 3 to 5 year-old children of Mexican descent: Whereas the tap /r/ reached the 50% level [of correct production] at age 3:7 and the 90% at 4:7, the trilled /rr/ did not reach the 50% level until 4:7. The 90% level was not yet obtained by age 5:7 for the trilled /rr/ (p. 359-60).

3. Statement of the problem

Much has been said about the perceptive capabilities of young children (see González-Bueno (2003) for a review of this issue). There are some studies that trace the acoustic conditioning of the ear back to prenatal stages (van Heteeren et al. 2000). Regardless of how early this acoustic conditioning happens, the target sound chosen for this study, the Spanish /r/ sound, did not seem to pose perception difficulties to the bilingual subject. From the very beginning of the experiment, a high level of accuracy in the responses to perception activities was observed. She did not show any difficulty in discriminating the target sounds when listening to them. It was when it came to production that she showed difficulty in articulating the Spanish vibrant liquids /r/ and /rr/. So it was not a perceptual difficulty, but a production (articulatory) one. As suggested by Macken (1978) in his study of a monolingual Spanish-speaking child, “the limits on complexity seen at each stage of development are limits on the child’s production (not perception or storage) at that time” (p. 219).

As a result of this articulatory difficulty, the subject replaced the target sounds with several other sounds of close or similar articulation. The early substitutions observed in the subject’s speech were: /rr/ > /l/ and /rrr/ > /rr/. These substitutions have been largely reported by previous researchers (Hernández-Pina, 1984; Khattab, 2002). Another substitution was /rrr/ > /R/, which has been reported by Ruke-Dravina (1965). In her analysis of a Latvian child, Ruke-Dravina (1965) points out:
/R/ can appear in the speech of children already at an early stage, even in those cases where this sound is missing in the speech of the environment. Given the lack of support for this articulation in the speech of adults, the /R/ disappears from the child’s speech, and the rolled /r/ is substituted again by other sounds (for example /l/), till the child acquires the correct apical, vibrating /r/ in accordance with the norm of the mother tongue (67).

The subject also used an array of original substitutions such as /t/ > /gtr/, /t/ > /kl/, and /t/ > /dr/. All three substitutions can be explained as an effort to approximate the articulation of the trilled /r/ by reinforcing the simple tap with the help of an occlusive sound. The last one, /t/ > /dr/, only occurred during self-monitoring speech, that is, she would be consciously trying to produce a trilled /t/. She was very much aware of her difficulties in producing the trilled /t/, and would state so to me: “Mommy, I can’t pronounce the /t/.” Her substitutions for other sounds were also reflected in her incipient spelling: “Mamá, tkielo” (instead of “… te quiero” –Eng. I love you), as can be seen in Appendix 8.

4. Method
4.1. Subject

Alicia, a female English-Spanish bilingual child between 4 and 5 years of age. The family decided to follow the “one-parent, one-language” (OPOL) method, in which each parent consistently uses one of the two languages. In Alicia’s case, her father spoke English, the language of the community and therefore the majority language, whereas her mother spoke Spanish, the minority language. This method made sense particularly because the father was English monolingual, and the mother a native speaker of Spanish (Southern Peninsular variety.) Alicia’s bilingualism was developing well, and she was very consistent in following the OPOL method, addressing her father only in English, and her mother only in Spanish.

4.2. Design
4.2.1. Treatment

A modified version of “Processing Instructional” approach was the treatment administered to the subject. This modification consisted initially in adapting the tenets of the PI approach to the teaching of pronunciation in the way illustrated in Table 1a.

One limitation of this approach is that it can only be used in the cases in which the target sounds are in minimal opposition, that is, they can be opposed in minimal pairs such as ‘pera’ and ‘perra,’ ‘coro’ and ‘corro,’ and so forth, since the design of the activities are based on the dichotomy of two interchangeable forms that learners have to discriminate in order to identify the correct meaning (VanPatten 2003). This approach was thought to be appropriate to teach the pronunciation of Spanish /r/ sounds since many (more than 30) Spanish minimal pairs containing the target sounds were found, so instructional activities following the IP approach could be designed.

The original “Input Processing” model states that acquisition, and therefore accurate production, will not occur until actual intake has taken place via input (in the case of this study, aural input.) Since, as explained earlier, the accurate perception of the /r/ sound did not pose any difficulties to the subject, we turned the focus of the treatment on production, that is, the “Output Processing” phase of the VanPatten’s approach. Structured output activities share most of the same guidelines for construction that were developed for structured-input activities (VanPatten, 1995). The main differences are in guidelines 3, 4, and 6, as shown in Table 1b.
Table 1a. Adaptation of the Processing Input Approach to the Teaching of Pronunciation

<table>
<thead>
<tr>
<th><strong>Grammar Processing Input</strong></th>
<th><strong>Pronunciation Processing Input</strong></th>
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<td>(VanPatten, 1996)</td>
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1. Teach only one thing at a time

1. One target sound at a time:
   1. /r/ versus /l/
   2. /rr/ versus /l/
   3. /r/ versus /rr/

2. Keep meaning in focus

2. Learners are forced to choose the correct answer according to what they hear:
   They hear: *La pera está en la cocina* ("The pear is in the kitchen")
   They have to select the visual that corresponds to what they hear:
   - a. *La pera está en la cocina* ("The pear is in the kitchen")
   - b. *La perra está en la cocina* ("The female dog is in the kitchen")
   The correct answer would be a. (learners do not have access to the written script, only to the visuals.)

3. Have learners do something with the input

3. After determining which words, "pera" or "perra" was heard, learners will have to indicate whether the statement is true or not, according to previously given information (for example, they learn about a female dog being in the garage, not in the kitchen, so the statement is false).

4. Use both written and oral input

4. Since we want to develop perception and pronunciation, only oral input is being used here.

5. Move from sentence to connected discourse.

5. Since the target form is the individual sound (phoneme), we will move from words in minimal pairs, to sentences, to connected discourse.

6. Keep the psycholinguistic processing strategies in mind.

6. In the realm of the acquisition of phonology, there are two main processing strategies that need to be taken into consideration:
   - That learners of a foreign language tend to process foreign sounds according to their native language’s phonological system. Since we are dealing with a bilingual learner, we will have to take into consideration those sounds that are very different in both languages, such as Spanish and English “r”.
   - And that learners process input for meaning before they process it for form. This strategy is addressed above in number 2.
Table 1b. Guidelines

<table>
<thead>
<tr>
<th>INPUT</th>
<th>OUTPUT</th>
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<tbody>
<tr>
<td>3. Have learners do something with the input</td>
<td>3. Others must respond to the content of the output: Learners have to accurately produce the target sounds while playing the bingo game in order for the other players to fully participate in the game.</td>
</tr>
<tr>
<td>4. Use both written and oral input</td>
<td>4. Use both written and oral output: Since we want to develop pronunciation, only oral output is used</td>
</tr>
<tr>
<td>6. Keep the psycholinguistic processing strategies in mind.</td>
<td>6. The learner must have some knowledge of the form or structure: Learners know the target sounds from the previous input phase.</td>
</tr>
</tbody>
</table>

Following is a description of the main two types of activities used for this particular study. They encompass various tasks that force learners to process both oral input and output.

1. Bingo game (2 versions): A bingo game was designed so the subject will be exposed to the target sounds in a word context. The bingo game was thought to be appropriate since it readily forces players to discriminate between the two sounds contrasted in minimal pairs. During the input phase, an adult Spanish native speaker would call the word, so the subject had to identify and discriminate it from the two possible choices. For example, if the word “perro” was called, the subject had to determine whether “perro” or “pelo” had been said (provided that she had both words in her bingo card.) Similarly, during the output phase, the subject would be the caller, so she had to make sure that the words were accurately pronounced in order for the other players to cover the right item. Many times, she would mispronounce, for example, the word “perro” as “pelo” if one of the players happened to have the word “pelo” on her bingo card, she would assume she had to cover that one item. The subject, then, would realize her mispronunciation, and try to repeat the word making an effort to correctly articulate the /rr/ that second time. At the beginning of the experimental period, the subject showed substitutions of the sounds [l] for [r] and [rr]. So the game tokens were words contrasting in minimal pairs with those sounds, e.g., “perro”/“pelo”; “borra”/“bola”; “hora”/“ola”; and so forth (see Appendix 1). Toward the second half of the treatment period, she had mastered the contrast [r]/[l] and [rr]/[l], but was still missing the contrast [rr]/[l], so a second version of the bingo game was devised targeting this contrast. Pairs of words included in this second version were, for example, “carro”/“caro,” “cerro”/“cero,” “corral”/“coral,” and so forth (Appendix 2).

2. Two different narrations followed by comprehension questions (perception and production): “La rana que ya no tuvo frío,” and “El perro” (Appendices 3 and 4 respectively.) The stories were designed to include a high number of instances of the target sounds. In addition, appropriate visuals to facilitate comprehension by the young subject were illustrated. These two stories were read aloud to the subject, who would answer two sets of comprehension questions that required both perception and production of the target sounds.

4.2.2. Analysis

The subject was taped in five different occasions:

- Time 1, at age 4:0
- Time 2, at age 4:5
- Time 3, at age 4:9
- Time 4, at age 4:10
- Time 5, at age 5:0
Speech tokens from times 1 through 4 were recorded in a Type I, Normal Bias audiotape through a RadioShack cassette recorder. The recording sessions took place in a quiet room with no sound reverberation. The speech tokens were digitized by using the sound card of a PC. Recording at time 5 was done directly into the microphone and sound card of a PC.

The speech tokens chosen for tapings 1 through 4 were rana, lana, lata, rata, perro, pelo, pera, toro, zorro, bola, hora, and ola. For taping 5, cero, cerro, coro, corro, pero, perro, pera, perra, caro, and carro were selected.

### 4.3. Results

Spectrographic analysis was done using the Praat computer phonetics program (Boersma and Weenick, 1992-2000). Spectrograms of five tokens at each five recording times were made: lana, bola, rana, perro, and pera, except for lana and bola, of which only four spectrograms were drawn, since the subject showed accurate articulation of [l] by time 4. There were, then, a total of 23 spectrograms: four from each lana and bola, and five from rana, perro, and pera. The results are shown in Table 2.

<table>
<thead>
<tr>
<th>Segment</th>
<th>Time 1</th>
<th>Time 2</th>
<th>Time 3</th>
<th>Time 4</th>
<th>Time 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>[l-] “lana”</td>
<td>[l-] “lana”</td>
<td>[l-] “lana”</td>
<td>[l-] “lana”</td>
<td>[l-] “lana”</td>
<td>[l-] “lana”</td>
</tr>
<tr>
<td>[-l-] “bola”</td>
<td>[-l-], [-r!] “bola,” “bora”</td>
<td>[-l-], [-r!] “bola,” “bora”</td>
<td>[-l-] “bola”</td>
<td>[-l-] “bola”</td>
<td>[-l-] “bola”</td>
</tr>
<tr>
<td>[rr-] “rana”</td>
<td>[l-] “lana”</td>
<td>[l-], [gr-] “lana,” “grana”</td>
<td>[gr-] “grana”</td>
<td>[gr-] “grana”</td>
<td>[rr-] “rana”</td>
</tr>
<tr>
<td>[-rr-] “perro”</td>
<td>[-l-] “pelo”</td>
<td>[-l-] “pelo”</td>
<td>[-l-] “pelo”</td>
<td>[-r-] “pero”</td>
<td>[-rr-] “perro”</td>
</tr>
<tr>
<td>[-r-] “pera”</td>
<td>[-l-] “pela”</td>
<td>[-l-] “pela”</td>
<td>[-r-] “pera”</td>
<td>[-r-] “pera”</td>
<td>[-r-] “pera”</td>
</tr>
</tbody>
</table>

As stated earlier, Alicia soon learned to distinguish between /r/ and /l/. She did not show any problem with initial /l/. At times 1 and 2, her intervocalic [l] sounded as something intermediate between [l] and [r], but she produced [l] consistently after taping 3. An indication of her initial l/r confusion could be observed in her spelling: In one occasion she wrote “te quiero” as “TKLRO” (Eng. I love you), superimposing the R over the L (see Appendix 8, bottom).

The [r] and [rr] sounds, both in initial and intervocalic position went through an interesting evolution, leading to a significant change towards accuracy at the end. Her initial [rr] started as [l] in time 1. In time 2, it was [l] sometimes, and [gr] other times. The substitution of [gr] persisted until time 4. A distinct transient can be seen in the spectrogram of “rana” corresponding to the burst of the epenthetic [g]. In time 5, the multiple vibration of the correct [rr] is showed in the various (4+) transients of its spectrum (Appendix 5).

In intervocalic position, [rr] was initially replaced by [l] at times 1 through 3. At time 4, there was an improvement in the form of an [r]. Finally, a perfect [rr] was produced at time 5 (Appendix 6).

Lastly, [r] was rendered as [l] at times 1 and 2, and was consistently pronounced as [r] from time 3 to the end (Appendix 7).

The spectrograms discussed above can bee seen in Appendices 5 through 7. Actual oral productions of the subjects can be heard by visiting http://www.soe.ku.edu/faculty/Gonzalez-Bueno.html
5. Discussion

Although the subject showed initial interest in both the narration and the game, she was reluctant to participate in the activities in subsequent instances. In the case of the narration, it is understandable that she would get bored with the story once it was read to her a few times. The bingo game was a little more successful, since the random nature embedded in the game itself kept it minimally interesting, particularly when a prize (an extra piece of candy, a second serving of dessert…) was established for the winner.

After the fourth taping, it was observed that the subject had made significant improvement in the pronunciation of /r/ versus /l/, but was still struggling with the articulation of the multiple vibrant /rr/. Similar situations have been reported by Jiménez (1987) and Goldstein & Iglesias (1996).

In order to speed up the developmental process towards the end of the treatment period, a different narration and a different version of the bingo game targeting the distinction between /r/ and /rr/ were devised.

The subject showed a pattern of interest in the second narration that was similar to what she showed in the first one. As to the bingo game, and in spite of manipulating completely new word items, she was reluctant to play early in the treatment. This might have been due to either the fact that the mechanics of the game did not change—it was still a bingo game—or to the fact that discriminating between the two new target sounds, /r/ and /rr/, posed additional difficulties to her that made playing uncomfortable. Nevertheless, she participated in these two new sets of activities, the narrations and the bingo games with enough frequency to result in the modification of her articulation of the target sound, as it will be seen in the next section.

As stated earlier, by the time of the fourth taping, the subject had not achieved a satisfactory pronunciation of the multiple vibrant /rr/, which was still being produced as the tap /r/. Nevertheless, it could be observed that she was using two strategies in order to make the distinction between the two sounds when in intervocalic position: 1) by lengthening the previous vowel, and 2) by pausing before the onset of the /rr/ (as to think about it, or as to collect the necessary strength required by the effort.) In initial position, her strategy was to add a velar stop sound to the /r/, resulting in a consonant cluster /gr/, which could be related to the velarized /R/ existing in other languages.

Apart from our treatment sessions, Alicia had been playing with sounds on her own, in particular with the target trilled /r/ sound. Occasionally, she would call my attention to the fact that, according to her, she could already produce it. However, her rendition of the target sound was not yet accurate. Earlier attempts came out as a kind of linguo-labial vibrant (a raspberry-like sound). Subsequent improvements included a vibrating lateral click. Finally, a few weeks before the fifth and last taping, the subject overcame the articulatory difficulty that the trilled /r/ had posed until now, and started to accurately produce the Spanish double “rr.” This happened not during a treatment session, but spontaneously. This is consistent with what Acton (1984) says about changing fossilized pronunciation: “The most important changes in pronunciation will occur outside of the classroom” (75).

She was delighted to finally produce a perfect trilled /r/, to the point that she would constantly pronounce the sound, both in isolation and as part of a word, as to overcome the frustration that that same sound had caused her in the recent past. As has been observed in other children, she over-compensated, and started to pronounce a trilled /r/ in contexts when a tap would have been correct: “*Mirra, mamá” (instead of “mira, mamá” –Eng. ‘Look, mommy!’). This situation soon subsided, and she started producing the two articulations, tap and trill, with an adult-like distribution.

6. Conclusions

All and all, Alicia’s process of acquisition of Spanish /r/ is not very different from other monolingual and bilingual subjects’ processes of acquisition described in the literature. The main goal of this study was not only to describe this process, but to see if it could be speeded up by using instructional intervention. This intervention was in the form of the instructional approach, Processing Instruction, modified to address the teaching of pronunciation. The ulterior goal of pilot-testing this
approach is so it can be implemented in a classroom setting, in the hope that it could help second language learners speed up their process of phonological acquisition, in other words, improve their pronunciation and reduce their foreign accent.

The results of this study show that the subject’s process of acquisition of Spanish /r/ was significantly faster and, therefore, shorter than that of children described in previous studies. Within the span of less than one year, Alicia went from mispronouncing both tap and trilled /r/s, replacing them with an array of other substitute sounds from the age of 4;0, to accurately producing both types of /r/s at the age of 4;11. This process, according to the literature, is not generally finished sometimes until the age of 6. Jiménez (1987) reports less than a 90% level of accuracy for trilled /r/ by age 5;7.

These results are far from being conclusive, since they emanate from the case-study of only one subject. However, they are promising in the sense that one would expect the same or similar type of instructional approach that was effective with Alicia to be effective also with learners of a second language in a classroom setting. The form-meaning-connecting instruction that made the bilingual subject aware of the difference in articulation of the target sounds and forced her to overcome the limitation on the production of complex sounds such as the trilled /r/, made-up for the negative effect of an input-poor environment. An input-poor environment is also a factor in classroom settings, where the acquisition of an acceptable level of pronunciation in the second language might be a hard, sometimes doomed process. It is therefore suggested that this study be replicated in a classroom environment, with a larger population of monolingual speakers learning a second language. If PI also shows to be effective in improving foreign language pronunciation of monolingual speakers, implications can then be drawn on the effectiveness of the PI approach for improving minority language pronunciation in bilingual speakers and second language pronunciation in monolingual speakers.
<table>
<thead>
<tr>
<th>gorra</th>
<th>lana</th>
<th>lata</th>
<th>torre</th>
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<tbody>
<tr>
<td>perro</td>
<td>pelo</td>
<td>roca</td>
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<td>bola</td>
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<td>sol</td>
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<td>pela</td>
<td>gorra</td>
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</table>
Había una vez una rana y una zorra que vivían en el bosque. Eran muy amigas, y se ayudaban la una a la otra siempre que podían. Cuando llegaba el invierno, la rana, que no tenía pelo para abrigarse, dormía hasta la primavera, cuando de nuevo hacía sol y calor. La zorra se quedaba muy sola, pero entonces se iba al pueblo cercano, a la granja donde vivía otro amigo suyo que le gustaba mucho, el perro. Cuando se acercaba a la granja, la zorra tenía mucho cuidado de que no la viera el toro bravo del corral; más de una vez el toro la había perseguido hasta el lindero de la granja, pues a los toros les gusta embestir a las cosas rojas, y la cola de la zorra era de un rojo vivo que era la envidia de todos los animales. Hasta el perro, que tenía un pelo rizado muy bonito, siempre envidiaba el pelo largo y rojizo de la zorra.

Un día le dijo la zorra al perro: ¿Cómo echo de menos a mi amiga la rana! Como no tiene pelo, pasa mucho frío en invierno, y por eso duerme hasta la primavera. Me gustaría que tuviera al menos un poquito de pelo, para que pudiera salir a jugar en la nieve con nosotros.

En la granja vivía también una rata lista, que se había construido su casa en una lata vieja de peras en almíbar. Mantenía su casa calentita llenando su lata de bolas de algodón y de pelo que encontraba aquí y allá.

El perro le dijo a la zorra:
- Vamos a preguntarle a la rata lista, a ver si a ella se le ocurre alguna idea para que la rana pueda jugar con nosotros sin morirse de frío.

Así que fueron a la lata de peras en almíbar a visitar a la rata lista, que en ese momento estaba tejiendo un gorro de lana para su sobrinita Ramona.

- Hola, señora rata ¿cómo está usted? –dijo amable el perro.

Pues ya ves –contestó la rata lista- aquí tejiendo un gorro para mi sobrinita Ramona, que pasa mucho frío durante el invierno porque tiene el pelo muy corto.

Entonces el perro le contó el caso de la rana, la amiga de la zorra. La rata pensó por unos momentos y dijo: “¡Ya está! Le haré un gorro de lana como el que le estoy tejiendo a mi sobrina Ramona. Así estará calentita y podrá salir a jugar con la nieve sin tener frío”.

La zorra se puso muy contenta, y se fue corriendo a despertar a su amiga la rana.

- Rana, rana, despierta, que tengo una sorpresa para ti.

La rana entreabrió los ojos, y dando un tiritón de frío dijo: “¿Qué pasa?”

La zorra le contó la idea de la rata lista de hacerle un gorro de lana para el invierno, y a la rana le pareció una idea estupenda.

Al domingo siguiente, la zorra se presentó en casa de la rana con un gorro de lana nueuecito que le había tejido la rata lista. Era rojo y verde, que son los colores favoritos de las ranas. Y como la rana era del mismo tamaño de Ramona, la sobrina de la rata, ¡le estaba perfecto!

A partir de entonces, la rana pudo salir todos los días a jugar con su amiga la zorra y su nuevo amigo el perro (al que acababa de conocer). Cada día, a la hora en que la zorra y el perro aparecían por la loma, la rana se ponía su gorro de lana rojo y verde, y salía a jugar en la nieve sin miedo a resfriarse.
¿Cuántas latas y cuántas ratas hay en el dibujo?

¿Cómo era la rana? (chiquitita, verde, sin pelo,...)
¿Cómo era la lana? (roja y verde)

¿A quién le gusta el pelo? (a todos los animales, al perro)
¿A quién le gusta el perro? (a la zorra)

Ejercicios de percepción:

Ejercicios de producción:

¿Quiénes son los personajes de esta historia?
- La rana, la zorra, el perro, la rata (y el toro)

¿A qué animal de la granja la tenía miedo la zorra?
- Al toro

¿Quién vivía en una lata?
¿Qué estaba tejiendo la rata?
- Un gorro de lana

Describe lo que pasa en el dibujo:
Narración 2

Un perro llamado Moro

By Manuela González-Bueno

Un perro llamado Moro viajaba por los cerros de Morón en la provincia de Sevilla. De pronto diviso a lo lejos un carro conducido por un hombre acompañado de su perra, que iba sentada junto al morral. Cuando Larra, que así se llamaba el hombre, vio a Moro, pensó que se trataba de un zorro y se dispuso a tirarle una piedra de las que llevaba en el morral para ahuyentar a los animales. “Mira, Lara le dijo a su perra—voy a darle en todo el morro a ese zorro. Lara, que vio que no era un zorro, sino otro perro, empezó a ladrar. Mientras Larra la calmaba, Moro se acercó más al carro. Larra pensó que sería más efectivo usar la barra de hierro que llevaba escondida en el forro de la chaqueta para usar en situaciones peligrosas. Pero cuando se dio cuenta de que Moro no era un zorro, sino otro perro, en vez de golpearlo, le lanzó lejos una vara de olivo para ahuyentarlo. Moro, que se dio cuenta de que allí no lo querían, corrió a esconderse en un corral vecino que divisó al otro lado del cerro. Al poco rato llegó al corral Ramón Fierro, el dueño de la granja en que se encontraba Moro. Venía a encerrar a Soro, un toro fiero que iba a vender muy caro en la inminente feria de ganado. Cuando Soro vio a Moro, le embistió con tanta fuerza que lo mandó a la parra vecina. Ahora Moro tenía todo el cuerpo dolorido, en vez de solamente el morro. El pobre Moro, con la moral por el suelo, salió del corral y siguió su camino por los cerros, tratando de evitar todos los carros y los corrales que veía por el camino.

Perception:
(Done in English, so the focus is solely on perception and not production.)
1. What kind of animal is Moro?
   A dog (perro)
2. What means of transportation was Larra driving?
   A cart (carro)
3. What animal did Larra think that Moro was?
   A fox (zorro)
4. Where did Larra keep the rocks?
   In his knapsack (moral)
5. Where did Larra intend to hit Moro?
   On its nose (morro)
6. What did Larra throw to Moro?
   A stick (vara)
7. Where did Moro hide from Larra?
   In a corral (corral)
8. What kind of bull was Soro?
   Fierce (fiero)
9. Against what did Soro throw poor Moro?
   Grape vine (parra)
10. What did Moro have very low after this episode?
    Its mood/spirit (moral)

Production:
1. ¿Cómo se llama el perro? (What was the name of the dog?)
   Moro
2. ¿En qué parte del cuerpo quiso Larra pegarle al perro? (Which part of the dog’s body did Larra intend to hit?)
   El morro (the snout)
3. ¿Qué tipo de animal pensaba Larra que era el perro? (What animal did Larra think that the dog was?)
   Un zorro (a fox)
4. ¿Qué iba a tirarle Larra al perro cuando pensó que era un zorro? (What was Larra going to throw the dog when he thought it was a fox?)
   Una barra de hierro (a iron bar)
5. ¿Pero qué le tiró cuando se dio cuenta de que era un perro? (But what did he throw instead when he realized it was a dog?)
   Una vara (a wooden stick)
6. ¿Dónde se escondió Moro? (Where did Moro hide?)
   En un corral (in a corral)
7. ¿Qué otro animal había allí? (What other animal was there?)
   Un toro (a bull)
8. ¿Cómo se llamaba el toro? (What was the bull’s name?)
   Soro
9. ¿Qué tipo de toro era Soro? (What kind of bull was Soro)
   Fiero (fierce)
10. ¿Cómo se llamaba el dueño de Soro? (What was the name of Soro’s owner)?
   Fierro
Appendix 5
Spectrograms of “rana” Times 1, 4, and 5

Rana Time 1

Rana Time 4

Rana Time 5
Appendix 6
Spectrograms of “Perro” Times 1, 4, and 5

Perro Time 1

Perro Time 4

Perro Time 5
Appendix 7
Spectrograms of “pera” Times 1 and 5

Pera Time 1

Pera Time 5
Appendix 8

Subject’s Spelling

MAMATOMLO
MAMAPAAPA
TIELO
MAMAPAAPA
PAPA
TIELO