Gómez Carrero, Tamara & Ogneva, Anastasiia (2024). Who does it better? The acquisition of Spanish grammatical gender by L1 English and L1 Russian adults, *Revista Española de Lingüística Aplicada*, 37(1), 143-171 https://doi.org/10.1075/resla.21031.gom

Who does it better? The acquisition of Spanish grammatical gender by L1 English and L1 Russian adults

ABSTRACT

This study addresses the acquisition of second language (L2) Spanish grammatical gender by native speakers of two typologically different languages: English (n=39) and Russian (n=37). We aim to explore if the presence or absence of gender features in the first language (L1) influences the acquisition of Spanish grammatical gender. Participants completed an acceptability judgment task with 40 sentences with grammatical and ungrammatical Spanish Determiner Phrases (DPs), with masculine and feminine Ns (Nouns) with transparent or opaque endings. Our findings show that (1) both groups are sensitive to gender non-matching structures, although L1 Russian speakers gave the lowest scores to ungrammatical structures in Spanish; (2) higher rating scores to masculine matching DPs point to the use of masculine as default by both L2 groups; (3) Ns with transparent endings act as cues for L2 Spanish learners, since both groups of participants rated the non-matching DPs with transparent Ns more accurately than those with opaque Ns. Therefore, our findings suggest that gender in L2 Spanish can be acquired regardless of the presence or the absence of these grammatical property in the L1, although its presence in the L1seems to accelerate this process.

Keywords: Spanish grammatical gender, L2 acquisition, Russian, English, Full Transfer/Full Access hypothesis

Resumen

Este estudio se centra en la adquisición del género gramatical del español como segunda lengua (L2) por parte de hablantes cuyas primeras lenguas (L1) difieren tipológicamente: inglés (n=39) y ruso (n=37). Nuestro objetivo es examinar si la

presencia o la ausencia de los rasgos de género en la L1 influyen en la adquisición de esta propiedad gramatical en el español como L2. Para ello, los participantes completaron una tarea de juicios de aceptabilidad donde tenían que valorar 40 oraciones con sintagmas determinantes en español. La mitad de estos eran gramaticales y la otra mitad eran agramaticales, con sustantivos masculinos o femeninos con terminaciones opacas o transparentes. Los resultados indican que (1) ambos grupos muestran sensibilidad a los sintagmas determinantes agramaticales de género aunque los hablantes rusos les dan puntuaciones más bajas que los ingleses; (2) los participantes valoran más positivamente las estructuras gramaticales con sustantivos masculinos indicando el uso del masculino por defecto; y (3) los sustantivos con terminaciones transparentes facilitan el proceso de adquisición del género gramatical en español, ya que ante sintagmas determinantes agramaticales ambos grupos valoran los sustantivos transparentes con mayor precisión. Por lo tanto, nuestros resultados sugieren que el género en español como L2 puede adquirirse independientemente de la presencia o ausencia de esta propiedad gramatical en la L1, aunque su presencia parece acelerar este proceso.

Palabras clave: género gramatical español, adquisición de segundas lenguas, ruso, inglés, hipótesis Full Transfer/Full Access

1. Introduction

In recent years, there has been an increasing interest in the research on Spanish gender acquisition by Spanish monolinguals as well as by early and late bilinguals (e.g., Alarcón, 2011, 2020; Beatty-Martínez & Dussias, 2019; Bruhn de Garavito & White, 2002; Dussias et al., 2013; Fernández Fuertes et al., 2016; Fernández Fuertes et al., 2019; Fernández Fuertes & Liceras, 2018; Franceschina, 2005; González et al., 2019; Martoccio, 2019; Montrul et al., 2008; Ogneva, 2022; Pérez-Pereira, 1991; Sagarra & Herschensohn, 2012). One question that second language acquisition (SLA) research has intended to answer is whether adult second language (L2) learners are able to fully acquire all the grammatical features of a target language when there is a lack of these properties in their native language (L1). Such is the case of studies focusing on the

acquisition of L2 Spanish grammatical gender by native speakers of English, which lacks grammatical gender, (e.g., Alarcón, 2011, 2020; Franceschina, 2005; McCarthy, 2008; among others) as well as of other languages in which this grammatical feature is present, as in Russian (e.g., Camacho & Kirova, 2015; Kirova 2016), German (e.g., Diebowski, 2021) or Dutch (e.g., González et al., 2019).

Two main theoretical proposals have attempted to account for grammatical variability in L2 learners. From one point of view, the Failed Functional Features Hypothesis (Hawkins & Chan, 1997) or the Interpretability Hypothesis (Tsimpli & Dimitrakopulou, 2007), among other representational deficit positions, claim that adult L2 learners cannot fully acquire uninterpretable features absent in their L1 since they are already past the critical period and are not able to access Universal Grammar (UG). Therefore, these hypotheses assume that L1 and L2 acquisition are "fundamentally different" (Montrul et al., 2008, p. 504).

On the opposite view, full access proposals emphasize that there are similarities between L1 and L2 acquisition. According to the Full Transfer/Full Access Hypothesis (Schwartz & Sprouse, 1996) or the Missing Surface Inflection Hypothesis (Prévost & White, 2000), L2 learners fully acquire grammatical properties even if they are absent in the native language. Thus, full access to UG can be possible regardless of the age of L2 acquisition, that is, "interlanguage grammars are not restricted to L1 parameter settings and native-like representations are, in principle, acquirable" (White et al., 2004, p.106). Indeed, the Missing Surface Inflection Hypothesis is based on the idea that "variability in adult L2 performance does not reflect a deeper lack of functional categories or features associated with tense and agreement. Rather, L2 learners have difficulties with the overt realization of morphology" (Prévost & White, 2000, p.104), thus, a "mapping problem" between surface forms and abstract features.

By testing L1 English and L1 Russian adults, the present study intends to explore Spanish grammatical gender acquisition in L2 Spanish, a language with a binary gender system (masculine and feminine), by speakers of two different L1s: English, a language which has no grammatical gender, and Russian, which is a three-gendered language (masculine, feminine and neuter). Specifically, we take into consideration whether the presence or the absence of gender features play a role in the acquisition of

Spanish grammatical gender, and so, whether our results are in line with one of the theoretical proposals (the representational deficit position or the full access position).

In order to answer these questions, participants evaluated 80 sentences in Spanish. Half of these sentences were fillers while the other 40 were experimental sentences with a determiner phrase (DP; Det[erminer] + N[oun] + Adj[ective]) (e.g., *la casa roja*, 'the red house'). The experimental sentences included gender congruent and gender non-congruent DPs ($la_{fem}casa_{fem}roja_{fem}$ vs $el_{masc}casa_{fem}rojo_{masc}$) with masculine and feminine Ns which have transparent (-o for masculine and -a for feminine, as in $libro_{masc}$-$casa_{fem}$) or opaque endings (a vowel different from -o for masculine and different from -a for feminine or a consonant, as in $lápiz_{masc,}$ - $pared_{fem}$).

This paper is organized as follows: Section 2 provides the theoretical background of the study, including a description of the grammatical gender systems in Spanish, English and Russian, as well as a review of previous studies focused on gender acquisition in L2 Spanish. In section 3, we present the research questions. In section 4, we describe the participants, the stimuli, and the methodology used. In section 5, we present the data and summarize the main results. In section 6, we interpret and discuss the analyses, and we include the final conclusions.

2. Theoretical background

2.1. Grammatical gender in Spanish

Spanish has a dual gender system in which Ns can be classified as masculine or feminine. Gender is assigned to animate Ns according to their biological sex, as in (1), but this is more complex in the case of inanimate Ns, where it is impossible to establish a conventional classification of the characteristics which are strictly masculine and those which are strictly feminine. Therefore, Spanish gender is considered an arbitrary phenomenon (Roca, 1989). Masculine is reported to be a default or unmarked form (Harris, 1991; Roca, 1989). For Harris (1991), the default masculine consists in "the absence of any information about gender in lexical entries" (p. 44) and he defends one non-binary gender mark (i.e., *f*) as the formal representation of grammatical gender. Roca (1989) also discusses the default status of the masculine form and supports this

with the nominalization of verbal infinitives (e.g., *es un decir* 'it's a saying') or with compound Ns where the N is feminine (e.g., *el sacapuntas* 'pencil sharpener'). Additionally, Teschner and Russell (1984) support this view by showing that most of the morphological endings in Spanish are associated with the masculine value.

(1) a. *el niño*

the$_{SPmasc}$ boy $_{SP\ masc}$

'the boy'

b. *la niña*

the$_{SP\ fem}$ girl $_{SP\ fem}$

'the girl'

As the examples in (1), a morphological opposition between quasi-homophonous pairs can be established almost systematically (Green, 1988). This occurs with *inner core* nouns (Harris 1991), in which the N ending -o, as in *niñ-o*, corresponds to the masculine gender, whereas the N ending -a, as in *niñ-a,* correlates with the feminine gender. The same can be seen with inanimate nouns such as *casa*, feminine N ending in -a, and *libro*, masculine N ending in -o. Harris (1991) identifies two other groups: *outer core* and *residue.* The former are Ns with opaque or ambiguous endings, that is, a consonant or a vowel different from -o or -a, as in (2), while residue Ns are mostly masculine with an -a ending, as in (3a) or a feminine N with an -o ending, as (3b) (see Harris, 1991; Kramer, 2015; or Roca, 1989, for a detailed discussion).

(2) a. el lápiz

the $_{SP\ masc}$ pencil $_{SP\ masc}$

'the pencil'

b. la pared

the $_{SP\ fem}$ wall $_{SP\ fem}$

'the wall'

(3) a. el mapa

the $_{SP\ masc}$ map $_{SP\ masc}$

'the map'

b. la mano

the $_{SP\ fem}$ hand $_{SP\ fem}$

'the hand'

Within the DP, gender is expressed through agreement with the rest of the elements, such as Dets and Adjs, as shown in example (4). This is known as gender concord. Indeed, gender is an interpretable feature in N and an uninterpretable feature in Dets and Adjs, which must be checked through agreement (Chomsky, 1995).

(4) a. El lapiz amarillo
the $_{SP\ masc}$ pencil $_{SP\ masc}$ yellow $_{SP\ masc}$
'the yellow pencil'
b. La mano pequeña
the $_{SP\ fem}$ hand $_{SP\ fem}$ small $_{SP\ fem}$
'the small hand'

Therefore, the acquisition of Spanish grammatical gender involves gender assignment, which is lexical and is manifested syntactically through agreement in the DP (gender concord, as in 4) or in the rest of the sentence (gender agreement). Montrul et al. (2008) establish a classification of the errors which are linked to gender assignment or to gender agreement. They explain that, in a DP consisting of a N, a Det and an Adj, an error in gender assignment would be that neither the Adj nor the Det agree with the N in gender, as in (5); if the gender of the Adj diverges from the gender of the N and the Det, as in (6), then it is a gender agreement error. In order to delimit our study and following Montrul et al.'s (2008) error classification, we are only taking into account assignment errors, as in (5), in which the gender of the N (masc.) differs from the one reflected on the Det and the Adj (fem.). That is, when our participants are presented with incongruent DPs, they will have to evaluate structures like (5).

(5) *Una lápiz amarilla (Alarcón, 2011)
the $_{SP\ fem}$ pencil $_{SP\ masc}$ yellow $_{SP\ fem}$
'the yellow pencil'

(6) *Un lápiz amarilla (Alarcón, 2011)
the $_{SP\ masc}$ pencil $_{SP\ masc}$ yellow $_{SP\ fem}$
'the yellow pencil'

2.2. Grammatical gender in English and Russian

In order to understand how L1 English and L1 Russian speakers acquire Spanish grammatical gender, a description of how gender works in their L1s is needed.

English Ns can be classified as masculine or feminine due to the biological sex of their referents (i.e., boy/girl) but they cannot be classified in terms of their grammatical gender, except for personal pronouns (i.e., he/she; her/him). Moreover, there are no syntactic nor morpho-phonological cues that indicate the gender of an inanimate N in this language. In case of animate references, there are some suffixes that indicate the gender of the N, such as prince/princess or lion/lioness.

On the other hand, Russian has a three-way gender system, that is, Ns are masculine, feminine, or neuter. Gender agreement is expressed as a suffix and appears on singular adjectives, demonstratives, participles, certain pronouns, and verbs in the past. Gender agreement in Russian is illustrated in (7).

(7) a. *Tvoj malen'kij drug*
your Russian masc small Russian masc friend Russian masc
'your small friend'

b. *Tvoja krasivaja sestra*
your Russian fem beautiful Russian fem sister Russian fem
'your beautiful sister'

c. *Tvojo krugloje lico*
your Russian neuter round Russian neuter face Russian neuter
'your round face'

The distribution of gender forms in Russian is not equal, with masculine Ns constituting around 46% of all Ns, feminine forms are 41%, and neuters are only about 13% (Corbett, 1991). Masculine is considered to be the default gender, as it is the most frequent form and is associated with the default declension class (Corbett, 2007). Furthermore, gender assignment is largely predictable from the phonological shape of the nouns in the nominative singular. Thus, Ns ending in non-palatal consonants are masculine (e.g., *stul* 'chair'), Ns ending in stressed [a] are feminine (e.g., *rukά* 'hand'), and Ns ending in stressed [o] are neuter (e.g., *oknó* 'window'). However, in certain cases the phonological form of the N is opaque. For example, Ns ending in palatalized consonants could be both feminine and masculine (compare *rys'* 'lynx$_{fem}$' and *gus'* 'goose$_{masc}$'). Other opaque Ns include those ending in unstressed vowels. Due to the vowel reduction process, when vowels such as [a] or [o] are not in a stressed position, they are pronounced as [ə], for example, *myl* [ə] 'soap $_{neuter}$' and *butylk* [ə] 'bottle $_{fem}$'.

2.3. The acquisition of Spanish gender by non-native speakers

Studies on monolingual acquisition have shown that, in the case of L1 Spanish, gender is acquired around the age of 3 (Hernández-Pina, 1984; López-Ornat, 1997; Mariscal, 2009; Ogneva, 2021; Pérez-Pereira, 1991), that gender acquisition with animate Ns is achieved earlier than with inanimate Ns (Andersen, 1984; Fernández-García, 1999; Hernández-Pina, 1984), and that L1 Spanish children start with the production of masculine singular forms and they progressively introduce feminine forms (Socarras, 2011). In fact, children by the age of 36 months are able to use morphological (noun endings) as well as syntactic (determiner) cues when accessing gender information in Spanish (Arias-Trejo et al., 2013). Despite the apparent easiness of this process for monolingual speakers, the acquisition of Spanish gender is a persistent problem for many L2 learners, even when their L1 has grammatical gender (Meisel, 2009).

Research on SLA has widely discussed this issue with diverse methodologies (e.g., spontaneous as well as experimental offline and online data) and with language pairs which differ in terms of their gender properties in order to determine which theoretical proposal (i.e., representational deficit view or full access view) could explain the acquisition of L2 grammatical gender more efficiently. Hawkins and Franceschina (2004) investigated Spanish and French L2 late bilinguals with English as their L1. In accordance with the Failed Functional Features Hypothesis, the researchers conclude that the problems L1 English late bilinguals experience in the acquisition of gender are due to maturational constraints since they are less accurate in producing and perceiving this feature because they do not have it in their L1, and they are unable to access the UG after a certain age.

Montrul et al. (2008) and Alarcón (2011) compared Spanish early and late bilinguals, with English as their L1, in order to determine whether the incomplete acquisition of Spanish grammatical gender was due to a representational deficit as Hawkins and Franceschina (2004) defended. The two investigations report that both early and late L2 learners performed equally well in comprehension, but that the latter were less accurate in the production of gender agreement. Montrul et al. (2008) contend that this performance is not due to a representational deficit, but instead "to difficulty accessing and assembling gender morphology during production" (p. 536). Alarcón

(2011) also concludes that this divergence is due to a deficit in the computation of gender in the case of L2 speakers but that it is not a deficit in the underlying representation of morphosyntactic gender features, that is, her data do not support the Failed Functional Features Hypothesis, because both groups have gender in their underlying grammars, as they have shown in the comprehension tasks. These results have been also found recently in Alarcón (2020), where she combines reaction times and judgment data.

White et al. (2004) introduced French, a language with a binary gender system (i.e., masculine and feminine), in the equation. The authors compared both production and comprehension data from L1 English and L1 French adult speakers learning L2/3 Spanish. Their purpose was to examine whether the absence or presence of gender features in the L1 affected the representation of gender features and agreement properties in the interlanguage grammar. Their results show that both L1 English and L1 French speakers can achieve a native-like performance in terms of Spanish gender regardless of the absence or presence of certain grammatical features in their L1.

Kupisch et al. (2013) investigated French, but paired it with German, which has masculine, feminine, and neuter, so that both L1 and L2 have gender systems. They study gender marking in early and late bilinguals with French as the dominant or the weak language in order to determine the role of the acquisition context in judging and producing gender assignment and agreement in French. The authors, who also assumed a full access position, reported no significant differences across groups in terms of gender agreement and gender assignment neither in production nor judging, although L2 French speakers performed worse than the other groups when judging gender assignment.

Ellis et al. (2012) also researched the acquisition of a gendered language like German by native speakers of gendered and ungendered languages like Italian, Afrikaans, and English. The authors contended that all L1 groups showed the same pattern in terms of gender assignment, but they differed significantly in gender agreement. In this case, the L1 Italian group, with the gendered language, outperformed the rest of L1 groups. In light of these results, the authors concluded that the presence of gender properties in the L1 may act as a facilitator for the acquisition of German grammatical gender.

Opposite results were presented in Kirova (2016). By using a grammaticality judgment task and a picture-naming task, she compared two groups of Spanish L2 adults: L1 Russian and L1 English with different language proficiencies (low and advanced). Her results showed that both L1 groups performed identically in each of their proficiency levels. Indeed, the advanced L1 English group showed a native-like performance when judging Spanish gender. Therefore, her findings are in line with the full access proposals since the absence of grammatical gender in the L1 does not entail being unable to acquire this feature even after the critical period.

Thus, most of the recent studies on the acquisition of grammatical gender using offline data report that bilingual speakers with both ungendered and gendered languages succeed in the acquisition of Spanish grammatical gender, although differences among groups depend on the type of task and on the level of proficiency. Nonetheless, we find a different scenario when it comes to online data. Lew-Williams and Fernald (2010) compared Spanish L2 adults to Spanish L1 adults and children in three different experiments in which they were asked to perform an action (*Encuenta el/la…, ¿dónde está el/la…*?/ Find the... , where is the…?) and they had to decide between two objects with the same or different gender. Lew-Williams and Fernald (2010) found that Spanish L2 bilinguals do not make use of the gender cues to facilitate word recognition and that there are processing divergences between L1 and L2 speakers, since L1 speakers showed greater speed and efficiency in the online interpretation of the DP, while L2 learners do not take advantage of gender-marked determiners to establish reference.

Dussias et al. (2013) replicated Lew-Williams and Fernald's experiments with L1 English-L2 Spanish bilingual adults with different proficiency levels and with L1 Italian-L2 Spanish speakers in order to determine if the presence of grammatical gender in the L1 affected L2 gender processing. The authors found that highly proficient L1 English-L2 Spanish bilinguals used gender information during processing as L1 Spanish speakers do, while those with a lower proficiency did not do so. However, L1 Italian-L2 Spanish speakers only exhibited a gender anticipatory effect with the feminine condition. This means that when these participants heard the feminine determiner, they decided faster between the two objects than when they heard the masculine determiner.

Sagarra and Herschensohn (2012) combined online and offline data to investigate whether sensitivity to gender violations in Spanish N-Adj DPs was due to

language proficiency. Results from both a moving window and an acceptability judgment tasks revealed that intermediate L2 Spanish adults and native Spanish speakers performed in the same way, in line with Dussias et al. (2013), since both groups are sensitive to gender violations while beginner L2 Spanish adults are not. Grüter et al (2012) also combined online and offline data from L1 Spanish and L1 English-L2 Spanish adults because they aimed at investigating if there was any difference in terms of gender when comparing production and comprehension data. They observed that L2 Spanish speakers performed similar to L1 Spanish speakers in the offline comprehension task, while they produced gender assignment errors in the elicited production task and gender cues were not as useful as for the L1 Spanish speakers in the processing task.

Despite the fact that the diverse theoretical proposals (with their diverse methodologies) point to opposite views regarding the ultimate attainment of Spanish grammatical gender by L2 learners, there is a consensus by SLA researchers about the steps that all Spanish L2 learners go through during the process to achieve a native-like performance. Bruhn de Garavito and White (2002) and Montrul et al. (2008) report that concord—gender agreement between the Det and the N—occurs before gender agreement between the N and the Adj. Concerning the effect of morphology, researchers agree on the early acquisition of transparent Ns (e.g., *el libro, la mesa*) in comparison to opaque Ns (e.g., *el reloj, la mano*) (Alarcón, 2011; Bates et al, 1996; Franceschina, 2001; Sekerina et al. 2005), and bilingual speakers rely on gender transparency to process Spanish grammatical gender (Foote, 2014; Montrul et al, 2014), because an overt morphology in Spanish "is a reliable cue for establishing correct agreements in the phrase and sentence" (Alarcón, 2011, p. 345). Finally, in support of Harris's (1991) proposal, Camacho and Kirova (2015) L1 Russian-L2 Spanish data demonstrate the default status of masculine, since their results show evidence of feminine gender as the lexically-assigned gender. White et al. (2004) as well as González et al. (2019) report that Spanish L2 learners tend to turn to masculine when the gender specification of an N is not yet fully acquired, and Alarcón (2011, p. 345) explains that L2 learners use this strategy when they "are unable to link the abstract gender feature to its appropriate form in spontaneous oral production of gender

agreement" but she considers this to be a "mapping problem" instead of a problem in the underlying representation of gender in the learner's grammar.

Given the relative paucity of studies examining grammatical gender acquisition in L2 Spanish by L1 Russian speakers, our study fills an important gap by focusing on this population and comparing it with a more widely researched population, i.e., L1 English. Findings from this research could provide a more robust understanding of grammatical gender acquisition by native speakers of English and Russian and be useful for professionals who teach Spanish as an L2.

3. Research questions

The present study examines the acquisition of L2 Spanish grammatical gender by adult native speakers of English and of Russian, that is, languages with different gender properties. As the purpose of this study is to shed light on whether the presence or absence of these grammatical properties in the native language play a role in the acquisition of Spanish grammatical gender, we have set the following research questions:

1. Do L1 English and L1 Russian speakers differ in how they perceive gender congruent and non-congruent DPs? Based on Ellis et al. (2012), given the presence of grammatical gender in one of the L1s, Russian (masculine, feminine, and neuter), we expect Russian L1 speakers to be more sensitive to the DPs where the N does not agree in gender with the rest of the elements, as in (8b), than L1 English native speakers.

   (8) a. La$_{fem}$ cama$_{fem}$ nueva$_{fem}$ — gender matching DP
   'The new bed'
   b. La$_{fem}$ guante$_{masc}$ larga$_{fem}$ — gender non-matching DP
   'The long glove'

2. Do L1 English and L1 Russian groups rate masculine and feminine DPs differently? If so, in which conditions (matching or non-matching DPs)? Considering the default status that masculine gender has in Spanish, and based on the results from other studies (e.g., Alarcón, 2011; Camacho & Kirova, 2015; González et al., 2019), we expect both groups to give higher rates to masculine Det DPs than to feminine Det

DPs, above all when dealing with non-matching DPs, that is, when the N is feminine but is presented with masculine Det and Adj (e.g., *el*$_{\text{masc}}$ *cama* $_{\text{fem}}$ *sucio*$_{\text{masc}}$, 'the dirty bed').

3. Does morphology play a role in the acquisition of L2 Spanish grammatical gender? As L2 learners tend to rely on the morphological cues above all during comprehension (Kirova, 2016), we predict that transparent endings (*libro*$_{\text{masc transp}}$ – *mesa*$_{\text{fem transp}}$, 'book – table'), may act as facilitators in the acquisition of Spanish grammatical gender and, therefore, they are easier to judge in comparison to Ns with opaque morphology (*sol*$_{\text{masc opaque}}$ – *nariz*$_{\text{fem opaque}}$, 'sun – nose'),based on what previous studies have found (e.g., Alarcón, 2011; Bates et al., 1996; Franceschina, 2001; Foote, 2014; Montrul et al., 2014; Sekerina et al., 2005).

4. The study

4.1. Participants

For this study, we collected experimental data from 39 English native adults (29 females) and 37 Russian native adults (32 females). English L1 participants' mean age was 25.10 (*sd*=11.57) and Russian L1 participants' mean age was 30.81 (*sd*=6.71). All of them were adult L2 learners of Spanish. According to their language background questionnaires, the L1 English group started learning Spanish in a secondary educational institution in the U.S.A, while the L1 Russian group started learning Spanish in a Russian university. Participants from both groups have grown up in monolingual homes. In the language background questionnaire, they had to self-evaluate their proficiency in written and oral comprehension and production in Spanish. For this study, we only chose those who self-reported an upper-intermediate to advanced proficiency in all four skills[1].

4.2. Methodology

[1]We have used self-ratings as a means of assessment as it is one of the many non-independent measure proficiency assessment techniques used by SLA studies as reported by Park et al. (2021).

Participants were asked to complete an untimed acceptability judgment task which consisted in evaluating sentences in Spanish from 1 (completely incorrect) to 4 (completely correct), as shown in Figure 1[2]..

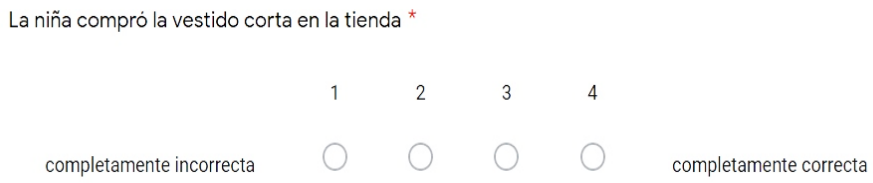

Figure 1. Sample item from the acceptability judgment task.

Acceptability judgment tasks have been widely used in SLA studies in order to "provide a window into learners' linguistic competence" (Ionin & Zyzik, 2014, p. 39). This offline technique allows the participant to reflect on their responses, and this involves the implication of their metalinguistic knowledge in their answers. Contrary to spontaneous speech, this type of task allows the researcher to control the context and manipulate the structures, so the participants' responses give an answer to the proposed research questions (Schmitt & Miller, 2010). Nonetheless, the researcher should be aware of some challenges when using acceptability judgment tasks since the participant may remember the ratings on early stimuli and avoid shifts in the internal rating when new items are shown (Parraga, 2015). At the same time, the participant may not understand the purpose of the task and only use the central values of the scale. In order to avoid the latter, we have decided to use a 4-point Likert scale so that there is no central value that the participant can use whenever they do not what to answer.

The task included 80 sentences in Spanish which were divided into fillers and experimental items. The fillers included grammatical and ungrammatical sentences with subject-verb agreement errors (e.g., **los niños va al parque por la mañana* instead of *los niños van al parque por la mañana* 'children go to the park in the morning') in order

[2] La niña compró la vestido corta en la tienda.
The girl bought the $_{fem}$ dress $_{masc}$ short $_{fem}$ in the store
'The girl bought the short dress in the store'

to distract the participants from the topic investigated. Fillers and experimental items were piloted with native speakers of Spanish.

The other 40 structures were experimental sentences with a DP (Det + N + Adj). Their position within the sentence has been balanced, that is, 20 of the sentences contained the DP in subject position while the other 20 sentences contained the DP as a direct object, so that we made sure that the position of the DP did not have an effect on their judgment. Since this is not the aim of this study, we have not analyzed if there were differences in terms of the position of the target DPs. The DPs were distributed across 8 experimental conditions as described in Table 1.

Table 1. Experimental conditions and examples

Conditions			**Examples**
Matching	Masculine	Transparent	*El libro nuevo* the SP masc new SP masc book SP masctransp
		Opaque	*El sol amarillo* the SP masc new SP mascsun SP masc opaque
	Feminine	Transparent	*La mesa cara* The SP fem expensive SP fem table SP fem transp
		Opaque	*La narizroja* The SP fem red SP fem nose SP fem opaque
Non-matching	Masculine	Transparent	*La platosucia* The SP fem dirty SP fem dish SP masctransp
		Opaque	*La cinturónnegra* the SP fem black SP fem belt SP masc opaque
	Feminine	Transparent	*El playa sucio* The SP masc dirty SP masc beach SP fem transp
		Opaque	*El llave dorado* The SP masc golden SP masc key SP fem opaque

As Table 1 shows, conditions were organized into 3 groups: (1) congruency, (2) gender, and (3) morphology. Concerning congruency, sentences were divided into matching or congruent structures (N=20) where both Det and Adj agreed in gender with the N, and non-matching or non-congruent DPs (N=20), where there was no gender agreement between the Det and the Adj with the N. In both matching and non-matching structures, half of the Ns were masculine, and the other half were feminine. According to the morphology condition, their endings could be transparent (-o for masculine Ns and -a for feminine Ns), or opaque (a consonant or a vowel different from -o and -a for masculine and feminine respectively).

All Ns were [-animate] and they belonged to the inner and outer core types (Harris, 1991). This means that no examples such as *la mano* ('the hand') or *el programa* ('the program') were included as experimental items. The experimental Ns were used only once in the task while the adjectives were included in their masculine and feminine versions. Moreover, Spanish Ns were not controlled for gender in Russian[3].

Furthermore, N frequency was also controlled for this task. The frequency of the experimental items was checked in the Corpus del Español Now corpus (Davies, 2016). No significant differences were found when comparing the frequencies of the Ns in terms of gender ($t(38) = 1.348$; $p=.17$).

The task was designed and distributed through Google Forms. Two questionnaires were created for both groups of participants, as the consent form was provided in English and in Russian respectively. Before the experiments, the participants gave their informed consent and completed the language background questionnaire.

5. Results

The descriptive results from the experimental task by group and condition are presented in Table 2. Although neither group performed at ceiling in any of the conditions, differences across groups can be observed mainly for the non-matching conditions.

[3]A list of the Spanish Ns used for this study as well as their Russian translation equivalents and their congruency type is included in Appendix 1.

Table 2. Mean rating per condition

	L1 Russian		L1 English	
	M	*SD*	*M*	*SD*
Masculine transparent matching *el libro nuevo*	3.54	0.46	3.53	0.42
Masculine transparent non-matching *la plato sucia*	1.61	0.66	2.06	0.79
Masculine opaque matching *el sol amarillo*	3.56	0.57	3.69	0.48
Masculine opaque non-matching *la cinturón negra*	1.85	0.78	2.37	0.79
Feminine transparent matching *la mesa cara*	3.29	0.67	3.45	0.56
Feminine transparent non-matching *el playa sucio*	1.65	0.61	2.00	0.74
Feminine opaque matching *la nariz roja*	3.46	0.61	3.38	0.53
Feminine opaque non-matching *el llave dorado*	1.90	0.80	2.55	0.73

A mixed ANOVA using the EZ package (Lawrence, 2011) in R was conducted on the average rates of the two groups. We included congruency (matching, non-matching), gender (masculine, feminine) and morphology (transparent, opaque) as within-subject factors and group (L1 English, L1 Russian) as a between-subjects factor. Before performing the mixed ANOVA, data were screened for assumptions and outliers.

The results from the mixed ANOVA revealed an interaction between congruency and group ($F(1,74) = 7.359$, $p = .008$.$\eta 2p = .02$) indicating that the L1 groups

differed significantly in the way they rated matching and non-matching structures. In order to further explore this interaction, a post-hoc comparison using Tukey's Honest Significance Difference (HSD; Hothorn, Bretz, &Westfall, 2008) was conducted. The post-hoc test yielded a significant difference (p<.001) between groups for the non-matching DPs because the L1 English group (M=2.24, SD=.79) gave higher scores to the non-matching structures in comparison to the L1 Russian group (M=1.75, SD=.71), whereas no significant differences were found for the matching DPs, as it is illustrated in Figure 2.

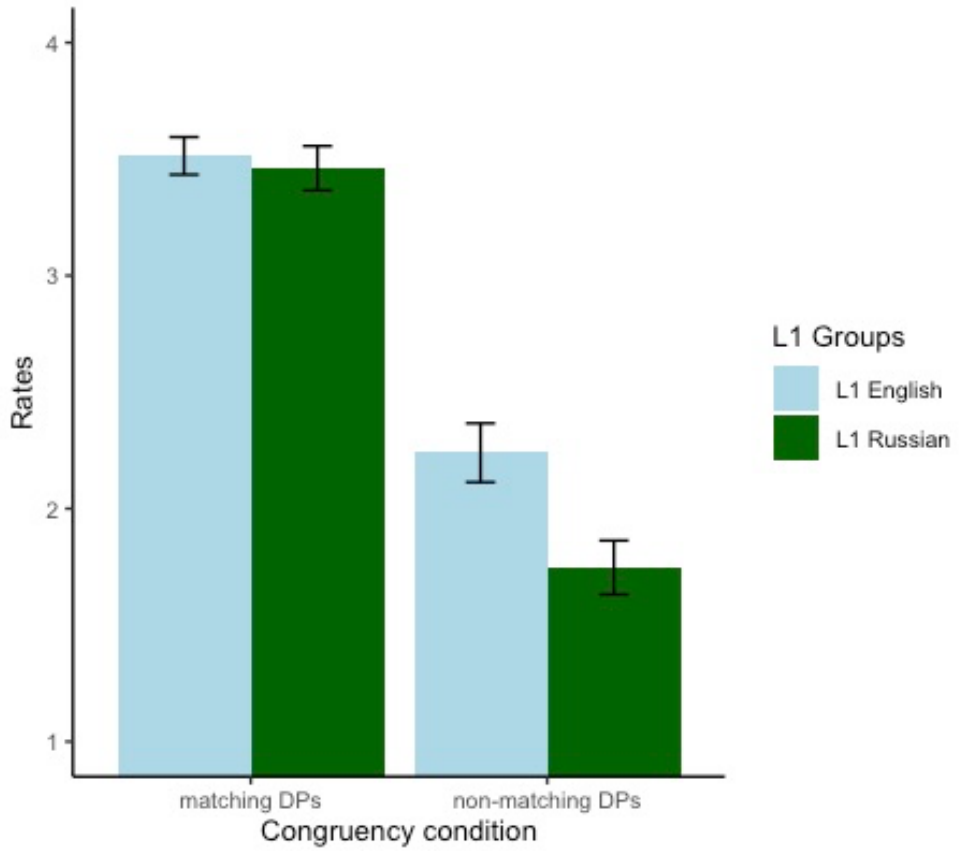

Figure 2. Congruency condition mean ratings per group

The mixed ANOVA also indicated a congruency by gender interaction (F(1,74) =18.114, p<.001) and a congruency by morphology interaction (F(1,74)=16.541, p<.001, $\eta 2p$=.012). As there are no more interactions by group, the following analyses have been done first without taking into account the group distinction and later within

each group. Thus, another post-hoc comparison using Tukey HSD was run to explore the congruency by gender and congruency by morphology interactions in depth.

The gender comparison, without taking into account the group distinction, revealed significant differences between masculine (M=3.58, SD=.48) and feminine matching DPs (M=3.39, SD=.59) (p=.002) but no significant differences were found for the non-matching DPs in terms of gender (p=.47). A repeated-measures ANOVA was conducted within each group. Both groups showed a congruency by gender interaction (L1 English: $F(1,38)=15.211$, $p<.001$, $\eta^2_p=.011$; L1 Russian $F(1,36) = 4.996$, $p=.031$, $\eta^2_p=.008$). The post-hoc comparisons using Tukey HSD revealed that, in the case of the L1 English group, the gender contrast is significant in gender matching DPs (p=.01), being masculine matching DPs better evaluated (M=3.61, SD=.45) than the feminine matching DPs (M=3.41, SD=.54), as it is illustrated in Figure 3. No significant differences were found for the non-matching DPs.

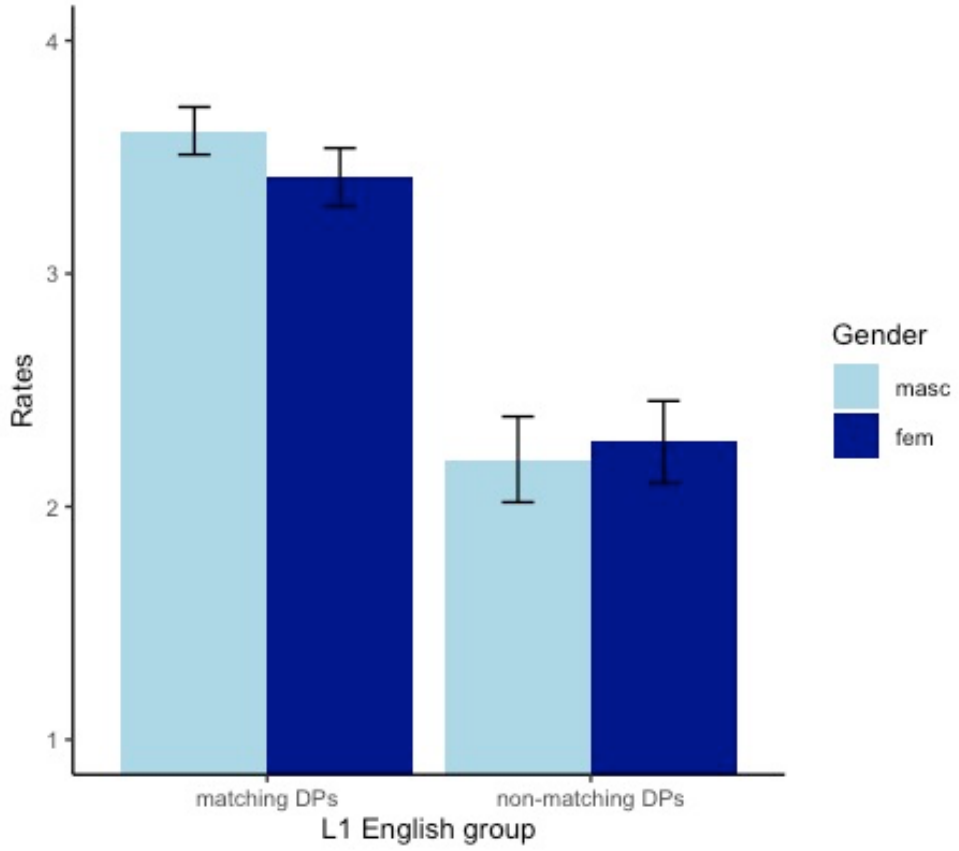

Figure 3. Gender condition mean ratings in matching and non-matching DPs by the L1 English group

In the case of the L1 Russian group, results show a marginal significant contrast when comparing masculine and feminine matching DPs (p=.06), but not for non-matching DPs (p=.63). They also evaluated masculine matching forms (M=3.54, SD=.51) with higher rates than feminine matching DPs (M=3.37, SD=.64). These results are depicted in Figure 4.

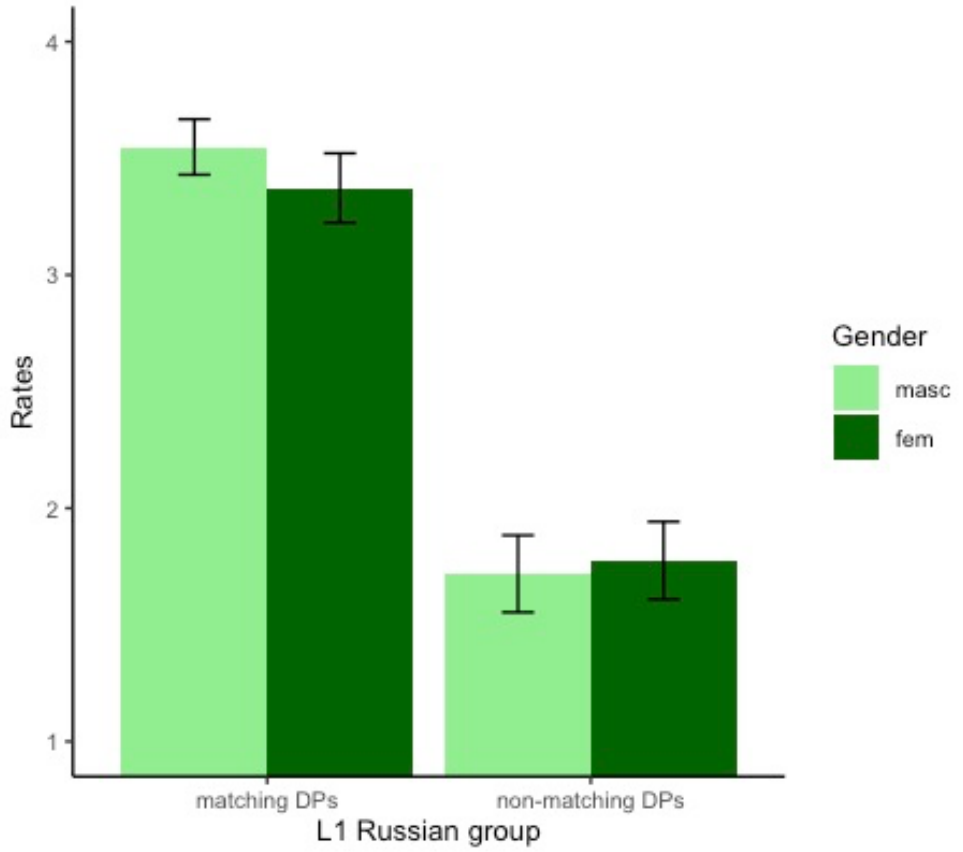

Figure 4. Gender condition mean ratings in matching and non-matching DPs by the L1 Russian group

The N morphology comparison (transparent vs. opaque), without considering the group distinction, uncovered significant differences for the non-matching DPs (p<.001): DPs containing Ns with an opaque morphology (e.g., *nariz* 'nose'*, sol* 'sun') are rated higher (M=2.17, SD=.82) than DPs with Ns with transparent endings (e.g.,*casa*'house'*, libro*'book') (M=1.8, SD=.72). In the case of matching DPs, results did not reach significance regarding morphology.

The repeated-measures ANOVA performed within each group revealed a congruency by morphology interaction in the case of the L1 English group ($F(1,38)=17.767$, $p<.001$, $\eta^2_p=.02$) but none in the case of the L1 Russian speakers ($F(1,36)=2.011$, $p=.16$, $\eta^2_p=.00$). The results from the post-hoc comparison using Tukey HSD within the L1 English group yielded significant differences in the case of non-matching DPs ($p<.001$); that is, L1 English native participants gave higher rates to non-matching DPs when the N had an opaque morphology ($M= 2.46$, $SD=.76$) than to non-matching DPs with transparent endings ($M=2.01$, $SD=.76$), as it is illustrated in Figure 5.

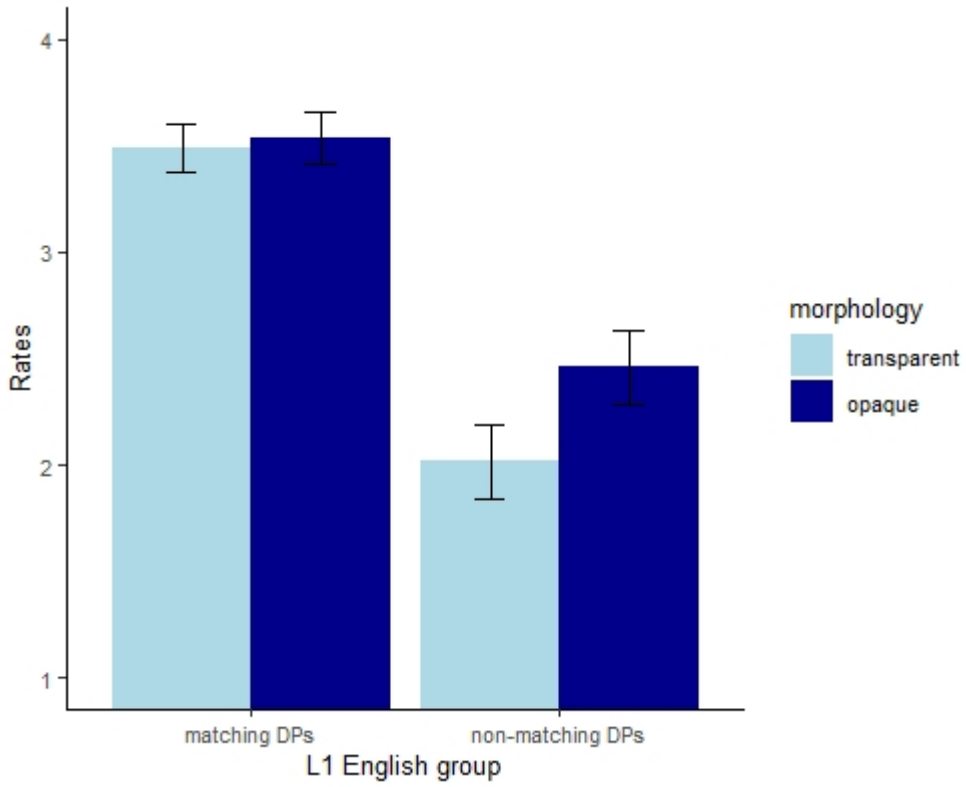

Figure 5. Morphology condition mean ratings in matching and non-matching DPs by L1 English group

Finally, both groups presented an effect of morphology in their repeated-measures ANOVA, thus, a paired-samples t-test was conducted within each group to examine their performance in terms of morphology. The aim was to identify the contexts in which there was a contrast between DPs with transparent and opaque

morphology (masculine or feminine matching DPs with opaque vs transparent Ns; masculine or feminine non-matching DPs with opaque vs transparent Ns).

As stated above, the L1 English group evaluated non-matching DPs with opaque Ns significantly higher than non-matching DPs with transparent Ns (Figure 5). We can see this pattern in both non-matching DPs with masculine and feminine Ns when comparing opaque vs. transparent Ns. We can see this in both masculine non-matching DPs (opaque vs. transparent Ns) ($t(38)=-4.72$, $p< .001$), and in feminine non-matching DPs (opaque vs. transparent) ($t(38)=-5.67$, $p< .001$). This is presented in Figure 6.

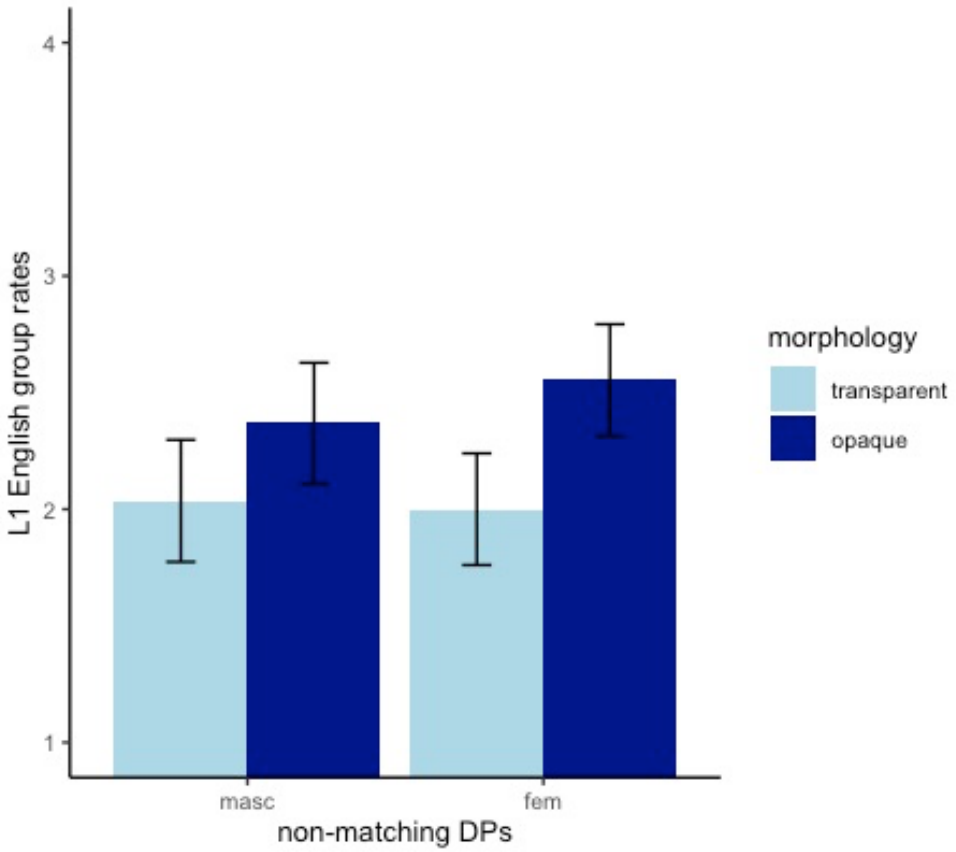

Figure 6. Morphology condition mean rates in masculine and feminine non-matching DPs by L1 English group

The L1 English group also showed significant differences when rating masculine matching DPs which differed in terms of N morphology ($t(38)=-2.27$, $p=.02$). They gave higher scores to opaque Ns (transparent: $M=3.53$, $SD=.42$; opaque: $M=3.69$ $SD=.48$).

The L1 Russian group presented the same pattern in the case of non-matching DPs. That is, masculine opaque Ns in non-matching DPs are rated significantly higher than masculine non-matching DPs with transparent Ns ($t(36)=-3.26$, $p=.002$) (transparent: $M=1.61$, $SD=.66$; opaque: $M=1.85$, $SD=.78$). The same can be observed in the feminine non-matching DPs ($t(36)=-2.84$, $p=.007$) since opaque Ns (M=1.90, sd=.80) are given higher scores than transparent Ns ($M=1.65$, $SD=.61$). These results are illustrated in Figure 7.

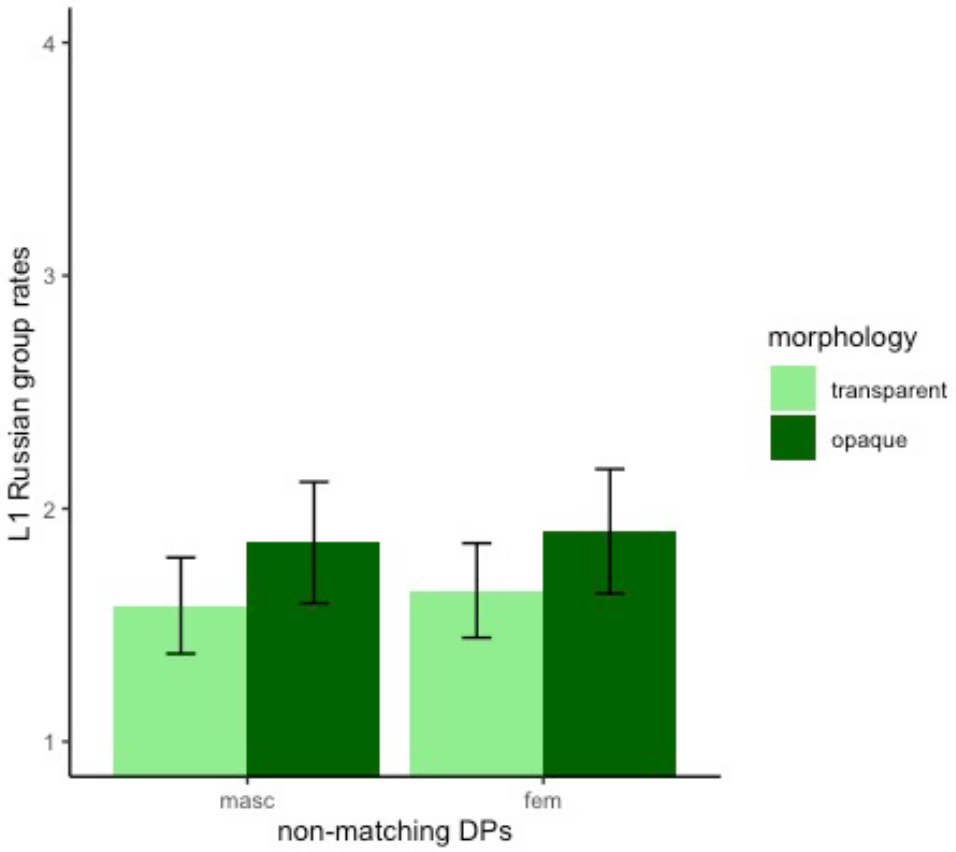

Figure 7. Morphology condition mean rates in masculine and feminine non-matching DPs by L1 Russian group.

6. Discussion and conclusion

Our study addresses the acquisition of Spanish grammatical gender by speakers of two typologically different L1s, i.e., English, which has no grammatical gender, and Russian, which has a three-way gender system (masculine, feminine, and neuter). As

Spanish has a binary gender system, masculine and feminine, the aim of this study is to test if the presence or absence of grammatical gender in the native language facilitates or hinders the acquisition process. Since our participants are adult L2 learners, this study attempts to contribute more data in the discussion of whether L2 adult speakers achieve full acquisition of grammatical properties, testing the Full Transfer/Full Access Hypothesis. To do so, three research questions have been proposed: (1) whether L1 English and L1 Russian speakers differ in the perception of gender matching and gender non-matching DPs; (2) whether there are differences in how they evaluate masculine and feminine DPs and if so, in which contexts this occurs; and (3) whether the morphology of the N facilitates the acquisition process. Thus, experimental data have been collected by using an untimed acceptability judgment task.

Regarding the first research question, results imply that L1 English speakers and L1 Russian speakers are able to identify correct gender assignment in Spanish DPs. However, divergences across groups have been found when it comes to gender incongruencies, that is, the DPs in which the N does not agree in gender with the Det nor the Adj (e.g., *el*$_{\text{masc}}$ *cama*$_{\text{fem}}$ *nuevo*$_{\text{masc}}$, 'the new bed' or *la*$_{\text{fem}}$ *guante*$_{\text{masc}}$ *larga*$_{\text{fem}}$, 'the long glove'). In this case, L1 Russian speakers have demonstrated more sensitivity to ungrammatical structures since they have given lower rates to non-congruent DPs than L1 English speakers have. Thus, these results indicate that, contrary to Kirova (2016), having grammatical gender in the L1 has a positive effect in the acquisition of this syntactic property in the L2. On the other hand, the L1 English group has also proved some degree of sensitivity to ungrammaticality since they have given lower rates to the non-congruent DPs in comparison to the congruent DPs. Thus, in line with previous studies (Alarcón, 2011; Montrul et al., 2008; Sagarra & Herschensohn, 2012; White, 2004), both L1 groups are able to identify gender matching and non-matching structures, but in accordance with Ellis et al. (2012), the presence of grammatical gender in the L1, as in Russian, leads to greater sensitivity to gender non-matching structures and, thus, facilitates the acquisition process.

Concerning the second research question, our results show that masculine forms were rated significantly higher than feminine forms in matching DPs. Although it did not reach a significant difference, both L1 groups also gave higher scores to feminine Ns in non-matching DPs, that is, feminine Ns with masculine Det and Adj (e.g., *el*$_{\text{masc}}$

playa$_{\text{fem}}$ *sucio*$_{\text{masc}}$, 'the dirty beach' or *el*$_{\text{masc}}$ *llave*$_{\text{fem}}$ *dorado*$_{\text{masc}}$, 'the golden key'). In line with previous studies, these results point towards the use of masculine as a default strategy (Alarcón, 2011; Camacho & Kirova, 2015; González et al., 2019; Ogneva, 2022; White et al., 2004).

Finally, regarding how the morphology of the N, i.e., transparent Ns (e.g., *cama, libro*) vs. opaque Ns (e.g., *nariz, sol*), may facilitate or hinder the acquisition of Spanish grammatical gender, results reveal that both groups show more sensitivity to gender mismatches when the N has a transparent ending, since transparent endings help these bilinguals identify gender agreement mismatches. This is why they have given higher rates to non-matching DPs with opaque Ns. Thus, in line with the claim from previous studies that grammatical gender is acquired earlier when the N has a transparent morphology (e.g., Alarcón, 2011; Bates et al., 1996; Franceschina, 2001; Foote, 2014; Montrul et al., 2014; Ogneva, 2022), we observe that, in fact, the transparent morphology of the Spanish N serves as a gender cue and that Spanish L2 learners rely on it to establish gender agreement.

In sum, our study indicates that Spanish grammatical gender can be acquired regardless of its presence or absence in the speaker's L1. This has been demonstrated by the sensitivity shown by both L1 groups when judging ungrammatical structures in Spanish. Although the presence of this grammatical property in the native language may act as a facilitator in the acquisition process, the results from our study have demonstrated that the absence of grammatical gender in the L1 is not an obstacle either. Therefore, these results support full access proposals such as the Full Transfer/Full Access Hypothesis which is based on the idea that L2 learners are able to fully acquire grammatical properties even if they are absent in their L1s.

In conclusion, our study contributes new data to SLA research focused on grammatical gender acquisition in L2 Spanish. Specifically, our major contribution consists in analyzing two groups of learners whose native languages are very different in terms of gender features. Yet, some limitations have been found regarding language transfer, since this study has not taken into account how gender congruency between Russian and Spanish plays a role in the design of the task and how this may have an effect in the evaluation of the structures. Additionally, it is important that further research does not only investigate the comparison of typologically different L1s, but

that it also balances the number of Ns which are congruent and non-congruent in both languages so that we can obtain a more complete picture of the process of gender acquisition. Another limitation of our study is related to the incongruent DPs, that is, only focusing on DPs in which both Det and Adj differ in terms of gender from the N, or what Montrul et al. (2008) defined as "gender assignment errors" (p.510). For future research, it would be interesting to include cases in which only the Adj differs from the Det and the N, in order to see how this has an effect on the acquisition of grammatical gender in Spanish. This would also allow us to examine gender agreement between two different categories: a functional category such as the Det and a lexical category such as the Adj, and thus, to determine if the presence or absence of grammatical gender in the L1 can also have an impact. Finally, the fillers used in the present study include person agreement errors. For future research, it would be interesting to compare the different judgments given to the fillers and those given to the experimental structures in order to determine if the evaluation of the experimental structures is influenced by the phenomenon presented in the fillers.

Funding

This research has been funded by the Spanish Ministry of Science, Innovation and Universities and European Regional Development Fund (ERDF) (grant number: PGC2018-097693-B-I00); by the Castile and León Regional Government and the European Social Funding (Spain) (grant number: EDU/556/2019, 5 June); by the Regional Government of Galicia (Spain) (grant number: ED481A-2017/279); and by the Spanish Ministry of Universities (grant number: RSU.UDC.MS09).

References

Alarcón, I. (2011). Spanish gender agreement under complete and incomplete acquisition: Early and late bilinguals' linguistic behavior within the noun phrase. *Bilingualism: Language and Cognition, 14*(3), 332-350.https://doi.org/10.1017/S1366728910000222

Alarcón, I. (2020). Early and late bilingual processing of Spanish gender, morphology, and gender congruency. *BOREALIS: International Journal of Hispanic Linguistics*, *9*(2), 175-208. https://doi.org/10.7557/1.9.2.5523

Arias-Trejo, N., Falcón, A. & Alva-Canto, E. A. (2013). The gender puzzle: Toddlers' use of articles to access noun information. *Psicológica, 34*, 1-23.

Andersen, R. (1984). What's gender good for, anyway? In R. Andersen (Ed.), *Second languages: A cross-linguistic perspective* (pp. 77–99). Rowley: Newbury House.

Bates, E., Devescovi, A., Hernández, A. & Pizzamiglio, L. (1996). Gender priming in Italian. *Perception and Psychophysics, 58*(7), 992-1004.

Bruhn de Garavito, J. & White, L. (2002). The second language acquisition of Spanish DPs: The status of grammatical features. In A. T. Pérez-Leroux & J. M. Liceras (Eds.), *The Acquisition of Spanish Morphosyntax: The L1/L2Connection* (pp. 153-178). Dordrecht: Kluwer.

Beatty-Martínez, A.L. & Dussias, P.E. (2019). Revisiting masculine and feminine grammatical gender in Spanish: Linguistic, Psycholinguistic, and Neurolinguistic Evidence. *Frontiers in Psychology*, *10*, 751. https://doi.org/10.3389/fpsyg.2019.00751

Camacho, J. & Kirova, A. (2015). Does agreement affect the syntax of bare nominal subjects in Russian–Spanish bilinguals? In R. Klassen, J. M. Liceras & E. Valenzuela (Eds.), *Hispanic Linguistics at the crossroads: Theoretical linguistics, language acquisition and language contact. Proceedings of the Hispanic Linguistic Symposium* (pp. 169-190). Amsterdam: John Benjamins. https://doi.org/10.1075/ihll.4.09cam

Chomsky, N. (1995). *The minimalist program*. Cambridge: MIT Press.

Corbett, G. (2007). Gender and noun classes. In T. Shopen (Ed.), *Language typology and syntactic description: III: Grammatical categories and the lexicon*, 2nd Ed

(241–279). Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9780511618437.004

Diebowski, J. (2021). *Gender acquisition in Spanish. Effects of language and age.* Berlin, Boston: De Gruyter Mouton. https://doi.org/10.1515/9783110703047

Dussias, P. E., Valdés Kroff, J. R., GuzzardoTamargo, R. E., & Gerfen, C. (2013). When gender and looking go hand in hand: Grammatical gender processing in L2 Spanish. *Studies in Second Language Acquisition*, *35*, 353-387. https://doi.org/10.1017/S0272263112000915

Davies, M. (2016-). Corpus of News on the Web (NOW). Available online at https://www.english-corpora.org/now/

Ellis, C., Conradie, S., & Huddlestone, K. (2012). The acquisition of grammatical gender in L2 German by learners with Afrikaans, English and Italian as their L1s. *Stellenbosch Papers in Linguistics, 41*, 17-27. https://doi.org/10.5774/41-0-131

Fernández Fuertes, R., Álvarez de la Fuente, E., & Mujcinovic, S. (2016). The acquisition of gramatical gender in L1 bilingual Spanish. In A. Alba de la Fuente, E. Valenzuela, & C. Martínez Sanz. (Eds.), *Language Acquisition Beyond Parameters. Studies in honour of Juana M. Liceras* (pp. 237-279). Amsterdam: John Benjamins. https://doi.org/10.1075/sibil.51.10fue

Fernández Fuertes, R., Gómez Carrero, T., & Martínez, A. (2019). Where the eye takes you: The processing of gender in codeswitching. *Revista Electrónica de Lingüística Aplicada*, *18*(1), 1-17.

Fernández Fuertes, R., & Liceras, J. M. (2018). Bilingualism as a first language: Language dominance and crosslinguistic influence. In A. Cuza& P. Guijarro-Fuentes (Eds.), *Language Acquisition and Contact in the Iberian Peninsula* (pp. 159-186). Boston/Berlin: Mouton de Gruyter

Fernández-García, M. (1999). Patterns of gender agreement in the speech of second language learners. In J. Gutiérrez-Rexach, & F. Martínez-Gil (Eds.), *Advances in Hispanic Linguistics: Papers from the 2nd Hispanic Linguistics Symposium* (pp. 3-15). Somerville: Cascadilla Press.

Foote, R. (2014). Age of acquisition and sensitivity to gender in Spanish word recognition. *Language Acquisition, 2*(4), 365-385. https://doi.org/10.1080/10489223.2014.892948

Franceschina, F. (2001). Morphological or syntactic deficits in near-native speakers? An assessment of some current proposals. *Second Language Research, 17*(3), 213-247. https://doi.org/10.1177/026765830101700301

Franceschina, F. (2005). *Fossilized second language grammars: the acquisition of grammatical gender*. Amsterdam: John Benjamins. https://doi.org/10.1075/lald.38

González, P., Mayans, D., & van den Bergh, H. (2019). Nominal agreement in the interlanguage of Dutch L2 learners of Spanish. *IRAL: International Review of Applied Linguistics in Language Teaching.* (published online ahead of print). https://doi.org/10.1515/iral-2017-0174

Green, J. N. (1988). *Spanish*. In M. Harris & N. Vincent (Eds.), *The Romance Languages* (pp. 79-130). New York: Oxford University Press.

Grüter, T., Lew-Williams, C. & Fernald, A. (2012). Grammatical gender in L2: A production or a real-time processing problem? *Second Language Research,* 28(2), 191–215. https://doi.org/10.1177/0267658312437990

Harris, J. W. (1991). The exponence of gender in Spanish. *Linguistic Inquiry, 22*(1), 27-62.

Hawkins, R. & Chan, C.Y.-h. (1997). The partial availability of Universal Grammar in second language acquisition: The 'Failed Functional Features hypothesis. *Second Language Research, 13*(3), 187-226. https://doi.org/10.1191/026765897671476153

Hawkins, R., & Franceschina, F. (2004). Explaining the acquisition and non-acquisition of determiner-noun gender concord in French and Spanish. In P. Prévost and J. Paradis (Eds.), *The Acquisition of French in Different Contexts* (pp. 175-205). Amsterdam: John Benjamins**.** https://doi.org/10.1075/lald.32.10haw

Hernández Pina, F. (1984). *Teorías psicosociolingüísticas y su aplicación a la adquisición del español como lengua maternal.* Madrid: Siglo XXI.

Hothorn, T., Bretz, F., & Westfall, P. (2008). Simultaneous interference in general parametric models. *Biometrical Journal, 50,* 346–363.

Ionin, T. & Zyzik, E. (2014). Judgment and Interpretation Tasks in Second Language Research. *Annual Review of Applied Linguistics*, *34,* 37-64. http://doi.org/10.1017/S0267190514000026

Kirova, A. (2016). *Lexical and morphological aspects of gender and their effect on the acquisition of gender agreement in second language learners* [unpublished doctoral dissertation]. Rutgers University.

Kramer, R. (2015).*The morphosyntax of gender*. The Oxford Studies in Theoretical Linguistics. Oxford: Oxford University Press. http://doi.org/10.1093/acprof:oso/9780199679935.001.0001

Kupisch, T., Akpinar, D., & Stöhr, A. (2013). Gender assignment and gender agreement in adult bilinguals and second language learners of French. *Linguistic Approaches to Bilingualism, 3*(2), 150-179. https://doi.org/10.1075/lab.3.2.02kup

Lawrence, M. A. (2011). ez: Easy analysis and visualization of factorial experiments. R package version 3.0–0. http:/CRAN.R-project.org/package=ez

Lew-Williams, C. & Fernald, A. (2010). Real-time processing of gender-marked articles by native and non-native Spanish speakers. *Journal of Memory and Language, 63*(4), 447-464. https://doi.org/10.1016/j.jml.2010.07.003

Liceras, J. M., Fernández Fuertes, R., Perales, S., Pérez-Tattam, R. & Spradlin, K. T. (2008). Gender and gender agreement in bilingual native and non-native grammars: A view from child and adult functional-lexical mixings. *Lingua, 118*(6), 827-851. https://doi.org/10.1016/j.lingua.2007.05.006

López Ornat, S. (1997). What lies in between a pre-grammatical and a grammatical representation? Evidence on nominal and verbal form–function mapping in Spanish from 1;7 to 2;1. In A. T. Pérez-Leroux & W. Glass (Eds.), *Contemporary Perspectives on the Acquisition of Spanish, Volume I: Developing Grammars* (pp. 3-20). Sommerville: Cascadilla Press.

Mariscal, S. (2009). Early acquisition of gender agreement in the Spanish noun phrase: Starting small. *Journal of Child Language*, *36* (1), 143-171. https://doi.org/10.1017/S0305000908008908

Martoccio, A. (2019). Gender assignment strategies used by L1 and L2 speakers of Spanish. *International Review of Applied Linguistics in Language Teaching*. (published online ahead of print). https://doi.org/10.1515/iral-2018-0201

McCarthy, C. (2008). Morphological variability in the comprehension of agreement: An argument for representation over computation. *Second Language Research, 24*, 459-486. https://doi.org/10.1177/0267658308095737

Meisel, J.M. (2009). Second language acquisition in early childhood. *Zeitschrift für Sprachwissenschaft, 28*, 5-34. https://doi.org/10.1515/ZFSW.2009.002

Montrul, S., Davidson, J., de la Fuente, I., & Foote, R. (2014). Early language experience facilitates the processing of gender agreement in Spanish heritage speakers. *Bilingualism: Language and Cognition, 17*(1), 118-138. https://doi.org/10.1017/S1366728913000114

Montrul, S., de la Fuente, I., Davidson, J., & Foote, R. (2012). The role of experience in the acquisition and production of diminutives and gender in Spanish: Evidence from L2 learners and heritage speakers. *Second Language Research, 29,* 87-118. https://doi.org/10.1177/0267658312458268

Montrul, S., Foote, R., & Perpiñán, S. (2008). Gender agreement in adult second language learners and adult Spanish heritage speakers: The effects of age and context of acquisition. *Language Learning, 58*(3), 503-553. https://doi.org/10.1111/j.1467-9922.2008.00449.x

Ogneva, A. (2021). La sensibilidad a las claves lingüísticas y el uso del género gramatical en español: un estudio con niños diagnosticados con Trastorno Evolutivo del Lenguaje. *Circulo de Lingüística Aplicada a la Comunicación, 85,* 73-87. https://doi.org/10.5209/clac.73540

Ogneva, A. (2022). Exploring production of grammatical gender in L2 Spanish: is a transparent gender system easy to use for Russian-speaking students? *Sintagma, 34*, 81-101.

Park, H. I., Solon, M., Dehghan-Chaleshtori, M. &, Ghanbar, H. (2021). Proficiency reporting practices in research on second language acquisition: Have we made any progress? *Language Learning, 72*(1), 198-236. https://doi.org/10.1111/lang.12475

Pérez-Pereira, M. (1991). The acquisition of gender: What Spanish children tell us. *Journal of Child Language, 18*(3), 571-590. https://doi.org/10.1017/S0305000900011259

Prévost, P., & White, L. (2000). Missing surface inflection or impairment in second language acquisition? Evidence from tense and agreement. *Second Language Research, 16* (2), 103-133.https://doi.org/10.1191/026765800677556046

Roca, I. (1989). The organization of grammatical gender. *Transactions of the Philological Society, 87*, 1-32. https://doi.org/10.1111/j.1467-968X.1989.tb00617.x

Sagarra, N., & Herschensohn, J. (2012) Processing of gender and number agreement in late Spanish bilinguals. *International Journal of Bilingualism, 17* (5), 607-627. https://doi.org/10.1177/1367006912453810

Schwartz, B., & Sprouse, R. (1996). L2 cognitive states and the full transfer/full access hypothesis. *Second Language Research, 12*(1), 40-72.

Sekerina, A., Brooks, P. J., & Kempe, V. (2005, March). *Gender transparency facilitates noun selection in Russian.* [Paper presentation]. The 18th Annual City University of New York Sentence Processing Conference, Tucson, Arizona.

Schmitt, C., & Miller, K. (2010). Using comprehension methods in language acquisition research. In E. Blom & S. Unsworth (Eds), *Experimental Methods in Language Acquisition Research* (pp. 35-56). Amsterdam: John Benjamins. https://doi.org/10.1075/lllt.27.04sch

Socarrás, G. M. (2011). *First language acquisition in Spanish. A minimalist approach to nominal agreement*. London, New York: Continuum.

Teschner, R. V., & W. M. Russell. (1984). The gender patterns of Spanish nouns: An inverse dictionary-based analysis. *Hispanic Linguistics, 1*, 115–32.

Tsimpli, I. M., & Dimitrakopoulou, M. (2007). The Interpretability hypothesis: Evidence from *wh*-interrogatives in second language acquisition. *Second Language Research, 23*(2), 215-242. https://doi.org/10.1177/0267658307076546

White, L., Valenzuela, E., Kozlowska–Macgregor, M., & Leung, Y. (2004). Gender and number agreement in nonnative Spanish. *Applied Psycholinguistics*, *25*(1), 105-133. https://doi.org/10.1017/S0142716404001067

Appendix 1:

List of the target Ns in Spanish and their corresponding translation equivalents in Russian.

Condition	Spanish N	Russian N	Congruency type	Translation
Matching masculine	libro	kniga$_{fem}$	incongruent	'book'
	barco	korabl'$_{masc}$	congruent	'boat'
	vino	vinó $_{neuter}$	incongruent	'wine'
	vaso	stakan $_{masc}$	congruent	'glass'
	banco	skam'ja$_{fem}$	incongruent	'bench'
	puente	most $_{masc}$	congruent	'bridge'
	sol	solntse $_{neuter}$	incongruent	'sun'
	bosque	les $_{masc}$	congruent	'forest'
	árbol	derevo $_{neuter}$	incongruent	'tree'
	tenedor	vilka$_{fem}$	incongruent	'fork'
Non-matching masculine	globo	shar $_{masc}$	congruent	'balloom'
	sombrero	shljapa$_{fem}$	incongruent	'hat'
	plato	tarelka$_{fem}$	incongruent	'plate'
	edificio	zdanije $_{neuter}$	incongruent	'building'
	vestido	plat'je $_{neuter}$	incongruent	'dress'
	reloj	chasy$_{plural}$	incongruent	'clock'
	calcetín	nosok $_{masc}$	congruent	'sock'
	cinturón	remen' $_{masc}$	congruent	'belt'
	guante	perchatka$_{fem}$	incongruent	'glove'
	jabón	mylo $_{neuter}$	incongruent	'soap'
Matching feminine	ventana	okno $_{neuter}$	incongruent	'window'
	puerta	dver' $_{fem}$	congruent	'door'
	silla	stul $_{masc}$	incongruent	'chair'
	luna	luna$_{fem}$	congruent	'moon'
	mesa	stol $_{masc}$	incongruent	'table'

	nariz	nos masc	incongruent	‘nose’
	fuente	fontan masc	incongruent	‘fountain’
	torre	bashnja fem	congruent	‘tower’
	calle	ulitsa fem	congruent	‘street’
	nube	oblako neuter	incongruent	‘cloud’
Non-matching	playa	pljazh masc	incongruent	‘beach’
feminine	ducha	dush masc	incongruent	‘shower’
	bandera	flag masc	incongruent	‘flag’
	cama	krovat′ fem	congruent	‘bed’
	vela	svecha fem	congruent	‘candle’
	nieve	sneg masc	incongruent	‘snow’
	leche	moloko neuter	incongruent	‘milk’
	sangre	krov’ fem	congruent	‘blood’
	llave	kluch masc	incongruent	‘key’
	piel	kozha fem	congruent	‘skin’