Wholeale versus fine-grained transfer of the dative alternation from L1 Dutch and L2 English to L3 Spanish

A study on L3 type of transfer
El verb, diuen, és l'ànima del llenguatge.

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Abstract

This study aimed to provide evidence of transfer of lexical features into an L3. Thus, the goal was to look into L3 type of transfer. Type of transfer has been extensively debated in SLA literature (Lardiere, 2012); however, L3A literature has mainly focused on source instead of type of transfer (Slabakova, 2012). Previous studies used language combinations with either an L1 or L2 being typologically similar to the L3, which might have biased participants to transfer from the psychotypologically closest language, in line with Rothman’s (2010, 2011) Typological Primacy Model. This study employs and L1 and L2 that are typologically similar but that differ from the L3. Participants were 28 Dutch native speakers with L2 English and L3 Spanish, which were split in two levels of proficiency. Based on Perpiñán and Montrul (2006) participants carried out a Grammaticality Judgment Task in which they had to choose between the two alternates of the Dative Alternation, a Prepositional Dative (*John gave the cake to Mary*) and a Double Object Dative (*John gave Mary the cake*). Each sentence contained a verb that allowed the DOD either in English and Dutch, only in English, only in Dutch, or in neither language. In contrast, Spanish completely disallows the DOD. This design allowed observing whether Dutch or English lexical restrictions were transferred to Spanish. Accuracy scores were calculated for the GJT. A mixed ANOVA was run to compare participants divided according to high or low proficiency in Spanish and control Spanish native speakers. Significant interactions showing transfer from Dutch appeared; nevertheless, an unexpected preference for verbs disallowing the DOD in both language appeared. A second mixed ANOVA showed that participants divided according to their acquisition of the English constraints on the English DOD transferred the most from Dutch, but that English also had a modulating effect. Results appear in line with Slabakova’s (2016) Scalpel Model and Slabakova’s (2012) Modular Transfer Hypothesis.
Chapter 1. Introduction

As Grosjean (2010) points out over 50% of the population is bilingual. Let us speculate that this figure is likely to continue on increasing throughout the years. Given the current times it seems that human migration will continue on growing, which entails several things, but crucially the adaptation to a new society and the acquisition of a new language. We are then facing a population that is likely to have an L1 (their native language, which usually is the first language they learnt), an L2 (the second language that was learnt, likely to be English) and that will probably learn yet a third language in the course of their lives. That being the situation, we shall ask ourselves: how is it that we learn a third language? What features play a role? What factors intervene in the acquisition of a new language? Only by collecting answers to these questions will we be able to improve our methodologies in language teaching and ease the transition into the target society.

In L3A literature transfer, that is when speakers carry over their linguistic knowledge from one language to another, has gained quite some attention. However, the main focus has been on the source of transfer, for instance, Rothman and Halloran (2013) provide an overview of the main theories thereof. The main topic is transfer at the initial state, namely in the first steps of learning a language. Most of the theories assume the full transfer of a complete system, either the L1 or L2. The eventualities that are considered are no transfer, transfer from the L1, from the L2 (i.e. Bardel & Falk, 2007), from either one or the other depending on psychotypological proximity (i.e. Rothman, 2010, 2011), or simultaneous facilitative transfer from all the available systems (i.e. Westergaard, Mitrofanova, Mykhyalyk, & Rodina, 2016). In short, source of transfer has received most of the attention; nevertheless, little attention has been paid to L3 type of transfer (see Slabakova, 2012), namely what part of a linguistic feature is transferred: the general unmarked rule (wholesale transfer) or its irregularities and biases (the lexical properties, henceforth fine-grained transfer). In contrast, L2A literature provides a larger corpus of literature on type of transfer.

This study continues Slabakova’s (2012) line of research with the goal to provide a fuller picture of the phenomena taking place in transfer by using a more fine-grained approach to it. In order to approach the topic the Dative Alternation (DA) was employed. The DA refers to the possibility of the direct object (DO) and indirect object (IO) to alternate their order. The two alternates are the Prepositional Dative (PD, in which the complements are a DO as a noun phrase followed by an IO as a prepositional phrase, i.e. ‘John gave the cake to Mary’) and the Double Object Dative (DOD, in which the IO comes first as a noun phrase followed by the direct object also as a noun phrase, i.e. ‘John gave Mary the cake’). This linguistic feature is present in Germanic languages but absent in Romance languages, which always require the IO to be introduced by a preposition regardless of its position. Germanic languages do not however allow the alternation for all verbs; each has its own restrictions. We used L1 speakers of Dutch with L2 English and L3 Spanish. In this manner we were able to observe what specific constraints were being transferred, those of Dutch, English, or the feature altogether (wholesale transfer).

In conclusion, the present study aimed to approach L3 type instead of source of transfer; thereby not only contributing to the ongoing debate, but also to a new thread which we hope will complement the aforementioned theories. The insight provided by this fine-grained approach to transfer will help better understand type of transfer occurring in L3A. The present work is organized as follows. Chapter 2 provides an overview of relevant literature and work on LA and the DA. Firstly, L2A literature on type of transfer is discussed followed by L3A theories. Secondly, the DA is described, the rationale for this study's language combination and the specifics with regard to the languages involved. Thirdly, studies
looking into transfer of the DA in L2A are discussed. Next, in light of the reviewed literature the current study is presented. Chapter 3 presents the methodology that was used. Among other topics, the rationale for our method, the selection process of participants and stimuli. Chapter 4 presents the results, which showed that there was indeed variation between the observed verb types that suggested that transfer was not wholesale but fine-grained, especially when the feature had been successfully acquired in the L2. Chapter 5 discusses the results under the light of the reviewed literature.
Chapter 2. Previous literature

2.1. Literature on Language Acquisition

In this section a review of the literature on the two topics this research looked into is presented: L2 type of transfer and L3A. As mentioned in the introduction L2 has paid more attention to type of transfer than L3, hence L2 theories are used to introduce type of transfer. Then, L3A theories are discussed.

2.1.1. Second Language Acquisition theories on type of transfer

The focus interest of this study lies on type of transfer. The goal is not only to observe whether linguistic features are being transferred, but also what specific aspects of a feature are transferred. The objective is to explore those theories discussing transfer of general linguistic features without the language specific constraints versus transfer of the entire system including said constraints. Even though most theories also look into ultimate attainment, the matter is not addressed in such depth, since it is only secondary to this study.

This study outlines three possible approaches to type of transfer in L2A literature: no transfer (Clahsen and Felser, 2006), transfer of only lexical or fine-grained features (Vainikka and Young-Scho
ten, 1996), and complete transfer of the L1 system including the lexical (fine-grained) features (Schwartz and Sprouse, 1996; Hawkins and Hattori, 2006; Lardiere, 2008, 2009). In doing so, the relevant theories to each approach are introduced.

According to Clahsen and Felser (2006) there is no traceable transfer in adult L2 processing. Their arguments are based on processing rather than behavioral data in contrast to the accounts we will later discuss. According to them, L2 learners only build shallow grammatical structures in their L2. As a result, direct transfer at a morphosyntactical level from the L1 to the L2 is not possible. For this reason, a lesser amount of syntactic detail would be present in adult L2 processing. Thus, instead of relying on syntactic cues, processing would rely on semantic, associative and surface information (Clahsen and Felser, 2006b: 7), a kind of process they categorize as 'shallow' and that gives name to their theory: the Shallow Structure Hypothesis (SSH). According to the authors there is sparse evidence of L1 transfer in morphosyntactic processing and native-like processing seems restricted to local mismatches; thus, the L1 would act as an influence, but it would not yield direct transfer (Clahsen and Felser, 2006: 116). Hence, absence of transfer is represented by the SSH from a language processing perspective.

In contrast to Clahsen and Felser (2006), Vainikka and Young-Scho
ten (1996) argue that transfer occurs. However, transfer can be restricted to certain parts of the language system. Vainikka and Young-Scho
ten (1996) found that lexical projections are transferred to the initial state of learning an L2, whilst the functional projections develop through interaction with the L2's input, specifically overt morphemes. They looked into Italian and Spanish (head-initial languages) and Korean and Turkish (head-final languages) learners of German without formal instruction. It was found that speakers first transferred the headedness of their L1 in verb phrases and then switched to the correct head-final value in German. Their study showed that only lexical projections were present in the initial state and that functional projections were driven by the interaction of X’-Theory with L2 input. In summary, Vanikka and Young-Scho
ten (1996) defend that learners transfer L1’s linguistic features piece by piece, namely taking the lexical features that then develop into functional projections by means of L2 input.

Finally, in contrast to the previous accounts, there is transfer into the L2 initial state of the whole L1 system, including its lexical specifications. Different studies have found evidence to support this hypothesis and their differences depend, on the one hand, on their
perception of ultimate attainment (Hawkins and Hattori, 2006, in opposition to Schwartz and Sprouse, 1996) and, on the other hand, on the degree of detail provided (Lardiere, 2008, 2009). Although all these authors agree that the whole L1 system is transferred they differ in their view of whether this leads to ultimate attainment. Hawkins and Hattori (2006) argue that only interpretable syntactic features in the L1 can be activated in the L1. Interpretable syntactic features are those which are also used by semantic components to determine the meaning of syntactic expressions, features such as [singular], [past], etc.; uninterpretable features are their counterpart (Hawkins and Hattori, 1006: 270). This theory is called the Interpretability Hypothesis and has been built on several previous theories of theirs (the Failed Functional Features Hypothesis by Hawkins and Chan, 1997; and Hawkins', 2003, Representational Deficit Hypothesis), of which we only discuss the most recent, the Interpretability Hypothesis. Even though it is not explicitly stated by the authors, we would assume that both interpretable and uninterpretable features carry over to the L2. Hence, according to Hawkins and Hattori, learners overgeneralize the use of a linguistic feature when the feature is not present in the L1, whilst they carry over the L1’s specifications to the L2 when the feature is available in the L1. Nevertheless, Hawkins and Hattori (2006) take the underlying grammatical representations of learners as the construct to observe, which again leads to possible different interpretations of the data depending on the analysis. For instance, in their study they concluded that target-like performance does not straightforwardly mean that learners have the same underlying grammatical representation as native speakers. Thus, the authors argue for transfer of the entire L1 system but failure to attain nativelikeness.

The flip side of the L1 system’s full transfer poses evidence for ultimate attainment, namely nativeness in principle being attainable. Schwartz and Sprouse (1996) found evidence supporting that the complete L1 grammar, including the lexical features, is the structure upon which the L2 is built (what they call, ‘Full Transfer’). The acquisition of the L2 takes place by means of readjustment. The L1 system is the structure that is reshaped by the L2 language’s input. The original L1’s features gradually adjust to the new system accordingly through input and/or instruction. This idea is formulated into the Full Transfer/Full Access (FT/FA) hypothesis. Whilst Schwartz and Sprouse (1996) focus on ultimate attainment, Lardiere (2008, 2009) builds on their theory but adds nuances to the type of transfer. Her findings suggest wholesale transfer of the features including the specific characteristics, but said characteristics need then to adapt to accommodate the L2 system. In order to do so, the learner must learn the conditioning context that comes with the feature’s constraints, which might differ from those of the L1. This restructuring depends on the amount of input the learner receives. Lardiere (2008, 2009) formulates this theory into the Feature Reassembly Hypothesis (FRH).

The approach taken by Schwartz and Sprouse (1996) and Lardiere (2008, 2009) is similar to that of Hawkins and Hattori (2006), but it differs in so that the latter argues against ultimate attainment. Nevertheless, they all agree on the whole system, inclusive lexical features, being fully transferred in the initial state of the L2 and that this is the base on which the L2 is constructed.

In conclusion, there are three main points of view regarding type of transfer: no transfer, transfer of the lexical specifications, and complete transfer of the L1 system. As reviewed, the approach with the most empirical data is transfer of the whole system; and within this line of thought ultimate attainment gathers the most support. However, all these theories belong to the field of L2A. Currently, the main issue in L3A has been what is being transferred and especially from which language, namely source of transfer, which will now be addressed.
2.1.2. The field of Third Language Acquisition

L3A acquisition is approached as a distinct process with regard to the acquisition of a first or second language, since it is argued that the learner cannot go back to the naïveté once experienced when learning the first language, nor the early challenge of learning an L2 for the first time and for which only one linguistic system was available for transfer. Hence, as pointed out by Rothman & Halloran (2013: 56) L3A mainly differentiates itself from the two aforementioned learning processes in terms of potential sources of transfer, as they have readily available two (or more) linguistic systems. Theories within this framework operate on different assumptions: (1) transfer comes exclusively from the L1, (2) transfer stems exclusively from the L2 (i.e. Bardel & Falk, 2007), (3) transfer may come from either the L1 or the L2 (i.e. Rothman, 2010, 2011), or (4) it might follow a property-by-property basis (i.e. Flynn, Foley, & Vinnitskaya, 2004), namely taking the most convenient properties from each available language. Even though one could argue for no transfer whatsoever, to our best knowledge no studies have explored said account since there is a robust body of literature proving the existence of transfer.

The first case scenario would assume transfer to come exclusively from the L1 linguistic system, never from the L2/Ln. Nevertheless, such hypothesis will not be further discussed, as it was never formulated as an actual theory and has been dismissed by most academics and empirical data as pointed out by Rothman & Halloran (2013).

The second assumption has been named the L2 Status Factor (L2SF) by Bardel & Falk (2007). The L2SF presumes that the latest learnt language is to be fully transferred in the initial state of the L3 — meaning that the whole L2 system is to be transferred at the beginning of learning the L3 — and that transfer may be facilitative or non-facilitative. Transfer in this case is expected regardless of typology or facilitation, it is solely order of acquisition that drives it. According to Rothman & Halloran (2013: 58) Bardel & Falk's (2007) theory is in line with Paradis' (2004) claim which states that L2 grammar is stored in declarative memory whereas L1 grammar is kept in both, declarative and procedural memory. In this line of reasoning it is argued that L2 grammar is more readily available and consequently transferred by default. The data from Bardel & Falk (2007) supports this theory and more supporting evidence is found in Falk & Bardel (2010). Nevertheless, Rothman & Halloran argue that it has not been tested whether the features observed in Bardel and Falk’s studies had been acquired in the L1 and L2, thus no empirical evidence is present of the feature being available for transfer. In addition, it could be argued that any language acquired after the L1 is to be stored in the declarative memory, leading to question what the preference in selection would be in a learner acquiring an L4 or later.

The third possibility, transfer coming from either the L1 or the L2, gathers the most empirical data so far and its most representative theory is the Typological Primacy Model (TPM; Rothman, 2010, 2011), also supported by other works such as Giancaspro and Halloran’s (2012), or Montrul, Dias, and Santos’ (2011). The TPM predicts transfer to rely on perceived similarity of linguistic typology (psychotypology, namely the user’s perception of typological proximity of the languages involved; Kellerman, 1978) based on lexicon, syntactic structure, functional morphology, and phonology (Rothman & Halloran, 2013: 59). The TPM is based on the Cumulative Enhancement Model (CEM; Flynn et al., 2004), which considers that transfer can stem from any previously learnt language based on linguistic economy. Advocating for full transfer as in Schwartz & Sprouse’s (1996) Full Access/Full Transfer theory, the TPM hypothesizes that the L1 or L2 system is to be transferred in its entirety at the initial stage of learning an L3, and that transfer might be both, facilitative or non-facilitative. The criterion for selection of the L1 or L2 system depends upon...
psychotypology. After the initial transfer of said whole system, it readjusts progressively to accommodate the input from the L3.

The fourth approach, transfer property-by-property of the most convenient properties from each available language, has probably given birth to the largest amount of theories (the Cumulative Enhancement Model by Flynn et al., 2004; the Linguistic Proximity Model by Westergaard et al., 2016; and the Scalpel Model by Slabakova, 2016) —although there are not so much supporting data. The first one to be put forward was the CEM by Flynn et al. (2004); even though one could argue that they do not explicitly argue for a property-by-property transfer, the authors sustain that neither the L1 nor the L2 have a special status, hence being equally likely to transfer, but that transfer will only happen as long as it is facilitative. It seems counterintuitive that all the features from a language would be facilitative when learning another one; for this reason, Rothman & Halloran (2013: 57) seem on the right track when suggesting that holistic transfer would not support the exclusivity of facilitative transfer. Arguing for exclusively facilitative transfer could only hold if transfer were property-by-property. As pointed out by the authors themselves the results discussed in their 2004 experiment are also in line with the L2SF.

Two more recent accounts that follow the same line of thought are the Linguistic Proximity Model (LPM; Westergaard et al., 2016) and the Scalpel Model (SM; Slabakova, 2016). The LPM argues for property-by-property transfer, which would occur when a certain property has gathered enough supporting evidence for similarity across languages to be assumed. This kind of transfer would not be related to order of acquisition of the languages nor the language's typological grouping. Hence, all linguistic properties from all previously learnt languages would be available for transfer. Slabakova's (2016) SM builds on the LPM. Her contribution is suggesting that diverse factors —i.e. activation— have an influence in the learnability of certain properties in addition to the selectivity constraints outlined by Westergaard et al. (2016). Nevertheless, Slabakova's SM has not yet been tested; it is currently based on a literature review.

As reviewed, the theories that have gathered the most attention are the L2SF and the TPM. In some cases, not all the studies providing evidence seem to have controlled for confounding factors, for instance, proficiency in the L1 and L2 (see Rothman & Halloran (2013) on the L2SF). Nevertheless, Falk & Bardel (2010) and most of the studies on the TPM did take due care in their designs and still found significant results that supported said contradictory accounts.

In conclusion, there is a main issue to be considered: all these theories defend different ideas and they all have found supporting evidence. Our opinion is that this could be explained by looking at aspects other than source of transfer. In this manner, a fuller and more explanatory picture of L3A could be provided. Thus, this study proposes an approach to the type of transfer that is taking place in L3, more specifically, whether only a general property is transferred or also its lexical specifications. In order to do so, theoretical support in L2A literature on type of transfer was sought out since there has been little work on L3 type of transfer (see Slabakova, 2012).

The work on L3 type of transfer is limited at the moment. Slabakova (2012) reviews three studies on L3A type of transfer (Chin, 2008; Foote, 2009; and Montrul, Dias, and Santos, 2011). According to Slabakova (2012) Chin's (2008) and Foote’s (2009) results are in line with Lardiere’s (FRH), whereas Montrul et al.’s (2011) are in line with an input based account. After comparing the results across studies, Slabakova puts forward a theory that could explain the results that were found: the Modular Transfer Hypothesis (MTH), which states that the features being transferred depend on the intrinsic difficulty of the linguistic
property. To the best of our knowledge, this is the only theory that has been put forward regarding L3 type of transfer. Unfortunately, it is not yet further developed.

In summary, studies have showed that there is transfer and that it can come from the L1 or the L2, although there is no consensus on whether it could come exclusively from the L2. The accounts with the most supportive evidence are the L2SF (transfer from the L2) and the TPM (transfer depending on psychotypological proximity). Regarding L3A only the MTH has been put forward, which is in line with the LPM and the SM, the two most recent theories which argue for transfer happening on a property-by-property basis, hence selecting specific properties of each language instead of the whole system.

2.2. The Dative Alternation

In this section it is explained what the Dative Alternation (DA) consists in in general terms. The goal is to outline the most relevant characteristics of the feature with regard to this research. The focus is on Dutch native speakers who have acquired English as an L2 and who are currently learning or have learnt Spanish as an L3; thus, the languages to be discussed are Dutch, English and Spanish. The rationale of this combination is that to test the research question we required a linguistic feature which behaved overall similarly but with different restrictions across the L1 and the L2 and in a different manner in the L3. Such requirement is fulfilled by the DA in the aforementioned combination.

The DA is a phenomenon that occurs in certain languages that allow double object constructions. It allows an order inversion of the direct object (DO) and the indirect object (IO). Namely the noun phrase acting as DO followed by an IO introduced by a preposition —the so called Prepositional Dative (PD), see 1.a. The complements can reverse their order and then the IO drops its preposition, thus having an IO noun phrase followed by another noun phrase in the role of DO —namely a Double Object Dative (DOD), see 1.b. Languages allowing the PD and the DOD are said to have the DA. A large body of literature has studied the DA and showed that the alternation seems to be highly sensitive to various factors.

(1) a. John gave the cake to Mary English (PD)  
    ACC-DO PREP DAT-IO

   b. John gave Mary the cake English (DOD)  
    DAT-IO ACC-DO

As Baten and De Cuypere (2014: 17) describe, some factors interact with the DA, such as: semantics, pronominality, definiteness, animacy, discourse status and length of the two objects. These factors interact with the DA according to the authors in so that «all else being equal, animate, pronominal, definite, discourse given and short, objects tend to precede inanimate nominal, indefinite, discourse new and longer ones». Example 2 shows that the preferential order of the DO and IO shifted depending on whether the DO was pronominal (2.a) or a full determinant phrase (2.b). For instance, when the complement is pronominal it tends to appear before the other complements.

(2) a. John gave it to Mary  
    ACC-DO PREP DAT-IO

   b. John gave Mary the cake  
    DAT-IO ACC-DO
Next, a description of the constraints of the DA in Dutch, English, and Spanish is provided. It is worth mentioning that the cases listed below display tendencies and that under no circumstances the aforementioned restrictions hold in 100% of the cases or are meant to be exhaustive. More restrictions might hold and uses might vary with regard to different dialects.

2.2.1. Constraints on the DA in Dutch

The general assumption with regard to Dutch is that it is indeed a language with the dative alternation, i.e. ‘Jan gaf Maria de taart’ and ‘Jan gaf de tart aan Maria’. However, the DA is not enabled for all Dutch verbs and even those which allow it tend to have some sort of bias towards the DOD or the PD construction. For instance, van Belle and van Langendonck (1996) state that particle verbs (i.e. *toegooien*) show a preference for the PD; not only that, but that the preferred preposition in these verbs is *aan* (‘to’). The peculiarities of the DA in Dutch have sparked the interest of academics and several studies have been carried out. Some are based, for instance, on corpora (i.e. Colleman, 2009), introspection (i.e. van Belle and van Langedock, 1996) or spoken data (i.e. Haemers, 2012). In order to approach the restrictions on the DA in Dutch general constraints with regard to semantics that apply to *aan* ‘to’ are summarized, and later the two other prepositions that also allow the alternation: *naar* (‘to’), and *voor* (‘for’) are discussed.

According to Colleman (2009) Dutch follows a series of semantic constraints. One of these constraints affects communication verbs, which he divides into verbs of telling, teaching and showing. It seems as though the DOD highlights the effects of the agent’s action on the recipient, whereas the PD highlights the effect on the theme (Colleman, 2009: 603). These verbs might show different biases:

1) most communication verbs have a preference for the DOD; i.e. *aanraden* ‘advise, recommend’, *verzekeren* ‘assure’, *verzoeken* ‘ask, request’, etc.
2) a few are biased towards the PD construction with the *aan* preposition, i.e. *afleggen* ‘confess to, make an statement’, *bekendmaken* ‘make public, announce’ and *uitbrengen* ‘report to’.
3) some do not seem to make a distinction overall in their preferences, i.e. *vragen* ‘ask’, *laten weten* ‘let know’, *tonen* ‘show’, *meelden* ‘communicate’, *siganeren* ‘signal’ and *antwoorden* ‘answer’.

The other category he puts forward is verbs of refusal and of allowing. These verbs show how the agent’s acts affect the referent of the indirect object; the agent tends to be in control of the future of the indirect object. Those of refusal consistently prefer the DOD; i.e. *weigeren* ‘refuse’, *ontzeggen* ‘deny, onthouden ‘withhold’, etc. Verbs of allowing behave similarly in preferring the DOD, i.e. *toestaan* and *toelaten* ‘allow’. The last distinction put forward by Colleman (2009) is particle verbs and the agent-theme relation. Most of these verbs are inherently directional. Verbs with the particles *af* ‘off’, *door* ‘through’, *over* ‘over’ or *uit* ‘out’ are biased towards the PD. However, Colleman himself states that there are several exceptions to this tendency and that it should not be taken as an absolute rule.

The discussed verbs demand the preposition *aan*; nevertheless, Dutch allows the DA with verbs that require other prepositions as well, such as *naar* and *voor* as it will now be shown. *Naar*-verbs (*Dative Alternation with naar-Phrases (Goals)* in Taalportal) introduce a goal, these are mainly directional verbs. In this case, verbs accepting the DOD tend to be those expressing transfer of propositional content (i.e. *toebijten/toeblaffen* ‘to snarl at’, *toefluisteren* ‘to whisper to’, *toejuichen*‘to cheer at’). In the absence of *toe* they can occasionally take a prepositional phrase (3.a), although overall the DOD requires the presence of the particle *toe* in these verbs (3.b).
(3) a. Jan gooide de bal naar Peter (toe) (PD)
   'Jan threw the ball to Peter'

b. Jan gooide Peter de bal *(toe) (DOD)
   'Jan threw Peter the ball'

Voor-phrases (‘Dative Alternation with voor-Phrases (Benefactives)’ in Taalportal) usually introduce benefactive verbs. In general, verbs accepting the voor preposition do not alternate (4.a and 4.b), unless they belong to a small subset of verbs denoting activities related to the serving of food or drinks, such as schenken 'to pour' and opscheppen 'to dish up' (5.a and 5.b). However, even in this case Dutch does not entirely accept this option, since there are some exceptions to it, such as bereiden 'to prepare' and bakken 'to bake'.

(4) a. Peter repareerde de radio voor me (PD)
   'Peter repaired the radio for me'

b. *Peter repareerde Me de radio (DOD)
   'John repaired Me the radio’

(5) a. Peter schenkt een borrel voor Marie (PD)
   'Peter pours a drink for Mary'

b. Peter schenkt Marie een borrel (DOD)
   'John pours Marie a drink’

2.2.2. Constraints on the DA in English

In short, the most widely acknowledged characteristics of verbs allowing the DA in English according to Perpiñán and Montrul (2006) are: ditransitivity, a non-Latinate morphological root (also in line with Pinker, 1989) and that one of the arguments must be a possessor.

In English there are two kinds of verbs allowing the alternation, those that introduce the PD with to and those that introduce the PD with for. Overall it is considered that to-verbs are a larger group that has a wider acceptance of the DOD, whilst for-verbs are less and show lesser acceptance of the DOD. Most of the constraints are however lexical.

Studies (Krifka, 2003; Bresnan and Nikitina, 2008) have built on some of the issues brought up by Pinker (1989) and Gropen, Pinker, Goldberg, and Wilson (1989), which are two studies that have yielded much discussion on the English DA restrictions and their acquisition. Krifka (2003) offers the clearest state-of-the-art description of the phenomenon. He proposes a series of lexical restrictions that constrain the English DA. According to Krifka (2003) verbs that allow both constructions (PD and DOD) without having a clear bias are those:

1) involving possession, i.e. to show, to read, to forward, to offer, to send.
2) communication verbs referring to manner of speaking, i.e. *to shout, to scream, to yell*; those expressing speech acts, i.e. *to tell, to write, to read*; and those referring to means of communication, i.e. *to phone, to e-mail, to fax.*

3) Latinate verbs with one metrical foot, namely monosyllabic, with initial stress, or second-syllable stress if there is a schwa in the first syllable, i.e. *to allot, to assign, to award.* And also those expressing future possession, i.e. *to bequeath, to guarantee, to reserve.*

Some verbs are however restricted to one construction over the other. Some verbs are biased towards accepting the PD construction, such is the case of:

1) verbs in which the IO undergoes movement, i.e. *to bring.*
2) verbs denoting continuous imparting of force or control, i.e. *to hit, to kick, to throw.*
3) speech act verbs that subcategorize for a clause —in this case the direct object construction is completely disallowed—, i.e. *to say, to assert, to claim.*
4) Latinate verbs in general, i.e. *to donate, to report, to recite.*

Verbs showing a clear preference for the DOD according to Krifka (2003) are:

1) verbs of movement in which the movement is not executed, as it is the case with idiomatic expressions, i.e. ‘The exploration gave Beth a headache’ (Krifka, 2003: 4).
2) verbs of prevention of possession, i.e. *to deny, to spare, to cost.*
3) When there is a will to impart a sense of completion the DOD is preferred over the PD.¹
4) The usage of DOD entails the existence of the indirect object; hence, in a sentence ‘Ann told God her sorrows’ (Krifka, 2003: 6) God’s existence is presumed, whereas the PD would denote that God might not exist.

### 2.2.3. Constraints on the DA in Spanish

The general consensus about Spanish is that it does not have the DA, as it is the case for Romance languages in general (Kayne, 1984). Spanish only accepts the PD, the DOD is considered to be ungrammatical since the Spanish IO requires a preposition regardless of its position in a sentence. In the PD construction Spanish accepts the order DO-IO when comprised of a Noun Phrase (NP) and a Prepositional Phrase (PP), see 6.a. However, the DOD alternate in which both phrases are NPs and the order is IO-DO is ungrammatical, see 6.b. For Spanish to have an IO-DO, the IO needs to be introduced by a preposition for it to be grammatical. Even in that case the IO-DO order is perceived as marked (indicated by an ‘?’) by native speakers, see 6.c. As seen in example 6.a, there is also the possibility of an optional clitic before the verb.

\[\begin{align*}
(6) & \text{a. Juan (le) dió el pastel a María (PD)} \\
 & \text{CL.3SG NP-DO PP-IO} \\
 & \text{‘John gave the cake’ to Mary} \\
 b. & \text{*Juan dió María el pastel (DOD)} \\
 & \text{NP-IO NP-DO}
\end{align*}\]

¹ Following from Green (1974) Krifka (2003: 6) suggests that the sentence ‘Ann threw the ball to Beth’ is neutral, in so that Beth might or might not have caught the ball; whereas ‘Ann threw Beth the ball’ entails that Beth indeed caught it. Nevertheless, such phenomenon is perceived as a tendency at best, as Rappaport Hovav and Levin (2001) find exceptions to it.
‘John gave Mary the cake’

\[
\begin{array}{c}
\text{c. } \text{Juan dio a María el pastel} \\
\text{PP-IO NP-DO} \\
\text{‘John gave to Mary the cake’}
\end{array}
\]

Even though the distinction seems clear, authors such as Demonte (1995) and Cuervo (2003) have argued that the clitic construction shares the syntactic properties of the Germanic DOD discussed regarding Dutch and English. These authors argue for asymmetrical c-command of the complements —for an illustration of the parallelism proposed by Demonte (1995) and Cuervo (2003) see Pineda’s (2015: 2) examples in Figure 1 for English and Figure 2 for Spanish. Said asymmetries arise in anaphors, binding of possessives and distributive readings, frozen scope and passivization. The sentence equivalents proposed by Demonte (1995) and Cuervo (2003) could be summarized as in Table 1, where we see that 3.a and 4.a are considered equivalents on the one hand and 3.b along with 4.b on the other. Nevertheless, the only difference between 4.a and 4.b is the clitic, which we find in bold font.

\[\text{Figure 1. Asymmetrical c-command of the IO and DO in the dative alternation in English (from Pineda, 2015: 2)}\]

\[\text{Figure 2. Argued asymmetrical c-command of the IO and DO in Spanish with and without the clitic as argues by Demonte (1995) (from Pineda, 2015: 2)}\]
Table 1
Comparison of the PC and DOC between English and Spanish (following Pineda, 2015)

<table>
<thead>
<tr>
<th></th>
<th>PC</th>
<th>DOD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>English</strong></td>
<td>(3)</td>
<td></td>
</tr>
<tr>
<td>a. John Gave a book to Mary</td>
<td>b. John gave Mary the book</td>
<td></td>
</tr>
<tr>
<td><strong>Spanish</strong></td>
<td>(4)</td>
<td></td>
</tr>
<tr>
<td>a. Juan dio el libro a María</td>
<td>b. Juan le dio el libro a María</td>
<td></td>
</tr>
</tbody>
</table>

Contra this account several recent studies argue that the Dative clitic doubling makes no structural difference with regard to the non-clitic structure (i.e. Bleam, 2003; De Pedro Munilla, 2004; Perpiñán and Montrul, 2006; Pineda, 2013, 2015). These studies are mainly based on native speaker judgments. For instance, Pineda’s (2013) data is based on grammaticality judgments and samples of language found online and Perpiñán’s and Montrul (2006) study is based on grammaticality judgments of native speakers and on the acquisition of the Spanish DA by English speakers.

In conclusion, as Pineda (2015) states, the Dative Clitic Doubling cannot be assumed to be the results of speakers choosing between two syntactically different structures (DOD, PD) where different relationships hold between DO and IO. Thus, it is concluded that the DA as seen in English and Dutch is not found in Spanish and that the presence of the clitic is optional but conditioned by the type of predicate, the properties of the IO —the clitic appears more often when referring to given animate objects in spoken language, for instance—, and that it is bound to dialectal variation —it appears more in American Spanish (Aranovich, 2011; Pineda, 2015). However, in European Spanish —which is the study’s target— there is no difference in the meaning with regard to the presence or absence of the clitic le.

2.2.4. Summary

In conclusion, the DA is present in English and Dutch, although it is not an absolute phenomenon since both languages present different restrictions in its use. In addition, despite the discussed preferences and restrictions, verbs might show different allowances of the DOD with regard to specific contexts that are not part of the scope of our study. The sensitivity to changes such as context, sentence length, pronominalization, etc., as seen at the beginning of this section show how susceptible to variation this feature is. However, in general terms, it was observed that different constraints apply to the Dutch and the English DA. In addition, it is argued that Spanish does not present the phenomenon; hence, differentiating itself from the other two languages by the lack of DA. A summary can be found in Table 2.

Table 2
Summary of the constraints on the DA applied to verbs in Dutch, English and Spanish

<table>
<thead>
<tr>
<th>Kind of Dative</th>
<th>Dutch</th>
<th>English</th>
<th>Spanish</th>
</tr>
</thead>
<tbody>
<tr>
<td>Both</td>
<td>✓ Communication</td>
<td>✓ Communication: manner of speaking, speech acts, means of communication.</td>
<td>✓ Latinate: monosyllabic, initial stress, stressed 2nd syllable if there is a schwa in the first syllable.</td>
</tr>
<tr>
<td>DOD Bias</td>
<td>✓ Refusal and allowing</td>
<td>✓ Non-executed movement in idiomatic expressions.</td>
<td>✓ Prevention of possession.</td>
</tr>
<tr>
<td></td>
<td>✓ toe verbs</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>✓ Voor-verbs of</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2.3. Studies on the acquisition of the dative alternation in L2A

The current section looks into the findings with regard to the acquisition of the DA in the L2 literature. Studies discussing wholesale transfer of the DA feature are reviewed first and then studies presenting different results with regard to a more fine-grained approach are addressed.

Contrary to the studies reviewed before on fine-grained transfer (i.e. Lardiere, 2008, 2009), those looking into wholesale transfer have English as an L1 and different L2s, French in White (1987, 1991) and Spanish in Perpiñán and Montrul (2006).

White (1987, 1991) looked into transfer of the DOD construction into French. In 1987 she contrasted English speaking children and adults learning French by means of a Grammaticality Judgment Task (GJT) and found that illicit DOD structures in French — which like Spanish has no DOD alternate to the PD — were accepted by the participants. She then ran a second experiment in 1991 on English-speaking children learning French at school with three different levels of immersion. Transfer was present across groups. In White (1991) the three levels of immersion rendered overall significant differences in their preferences, whilst transfer was present in L2 speakers of French as well as in White (1987).

Perpiñán and Montrul (2006) found effects of transfer of the DA feature in intermediate learners of Spanish with English as an L1; the effects, however, disappeared with higher proficiency. As seen in the previous section, Spanish does not allow for a DA like that of English, since the preposition is compulsory regardless of the IO’s position. To this end, a GJT was administered to participants, who had to choose between two sentences. Several conditions were looked into although we only comment on the translation of the English DA into Spanish and word order of the complements (DO-IO and IO-DO) in Spanish. Intermediate learners were the only ones to choose IO-DO (which is a marked structure in Spanish) and the exact translation of the DOD (NP-NP, which is ungrammatical), whereas native speakers of Spanish and advanced learners did not according to the language’s grammar and preferences.

These results show how the DA can be transferred onto a language that has no DA similar to the canonical one present in Germanic languages. However, none of these studies has had a closer look at a fine-grained approach and the individual characteristics of the verbs involved as it is the case of the studies we will now discuss. First, those studies showing evidence in favor of transfer of the specific characteristics of the DA in a specific language will be covered, followed by those with differing results.

The most compelling evidence for a fine-grained approach comes from Whong-Barr and Schwartz (2002). They look into the acquisition of to- and for-datives in English by L1 English, L1 Japanese, and L1 Korean children. Both Japanese and Korean disallow to-datives, whereas for-datives are accepted in Korean but not in Japanese (see Table 3). By means of an oral grammaticality task it was observed that Japanese speakers allowed illicit DODs regardless of the kind of verb, thus overgeneralizing. Nevertheless, Koreans only overgeneralized the DOD in to-datives, disallowing illicit DODs in for-datives.
Overgeneralization is in line with the development shown in L1 children; hence, the authors argued that Korean and Japanese children were developing like English native speakers but that the pattern found in Korean presented a case of L1 influence. We would like to add that their results provide not only evidence of L1 influence, but also of the possibility of transferring specific rules from the L1. Even if not exactly comparable, their findings set a precedent for our more lexical, fine-grained, approach.

Table 3

<table>
<thead>
<tr>
<th></th>
<th>To-verbs</th>
<th>For-verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Japanese</strong></td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td><strong>Korean</strong></td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*Note: Yes: DOD allowed; No: DOD not allowed.*

Conflicting data with regard to fine-grained transfer is found in Bley-Vroman and Yoshinaga (1992). The goal of their study was to test whether Japanese learners of English acquire successfully the semantic constraint of possession in the English DA (which is also present in Japanese) and Pinker’s Narrow Range Rule (NRR, which assumes that the alternation depends on syntactic and semantic factors and that each variation has its own meaning with its own realization of arguments; 1989). To this purpose, they employed native speakers of Japanese with advanced knowledge of English and English native speakers. They had them perform a GJT by rating a sentence following a context on a 7-point Likert scale. The sentences were either PD or DOD constructions with a critical verb. In the first experiment the possession constraint was addressed with nonce verbs with and without the constraint. Results showed that participants performed native-like. As for Experiment 2 on the NRR real verbs were included. In real verbs L2 speakers performed in line with natives; however, in nonce verbs both rejected illicit DODs, but only English native speakers accepted licit DODs. It was concluded that the failure to acquire the NRR specific to English but succeeding in acquiring the possession constraint was in line with the Fundamental Difference Hypothesis² (Bley-Vroman, 1990). In sum, regarding fine-grained transfer it seems as though speakers can conform to the rules of the learnt language but that when facing nonce verbs they resort to the default, the restrictions of their L1.

Inagaki (1997), testing the NRR, looked into four classes of verbs with different restrictions in Japanese, Chinese and English (see Table 4). He followed the same procedure as Bley-Vroman and Yoshinaga (1992) with some modifications. In the first part of the experiment he used nonce verbs that the context allowed to classify in one of the four categories; in the second part only actual verbs were used. His results, however, were not in line with what would be expected if speakers were transferring from the L1. In the real and made up verb condition Japanese and Chinese speakers did not differentiate between throw and push verbs. They both distinguished verbs in the whisper-tell condition. So, only Chinese speakers behaved in line with what would be expected if transfer were present, what is curious is that Japanese speakers patterned the same despite departing from different conditions in their L1. The results seem thus inconclusive with regard to transfer from the L1. The author himself pointed out that speakers had an advanced level of proficiency and that some rated PDs better because they appeared in the context, hence, these factors might have confounded the results (Inagaki, 1997: 663 and 652).

²This theory posits that adults depart from the L1 and cannot access the UG anymore; thus, not acquiring lexical features.
Table 4 (Inagaki, 1997: 646)

<table>
<thead>
<tr>
<th>Verb Classes and their occurrence in the DOD Construction in English, Japanese and Chinese</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>------------------------</td>
</tr>
<tr>
<td>English</td>
</tr>
<tr>
<td>Japanese</td>
</tr>
<tr>
<td>Chinese</td>
</tr>
</tbody>
</table>

*Note:* Yes: DOD allowed; No: DOD not allowed.

2.4. The present study

The Dative Alternation is conditioned by different constraints in various languages. It has been shown that there are results supporting fine-grained transfer of various rules, such as the NRR (which bases the allowance of the alternation on semantic constraints; Pinker, 1988), general rules as Korean with to- and for-verbs (Whong-Barr and Schwartz, 2002), or various verb classes in English, Chinese, and Japanese (Inagaki, 1997). These studies show that the DA has been a good testing ground in L2 type of transfer in order to differentiate wholesale from fine-grained transfer.

In addition, there are three matters that have not been clearly addressed by the literature. Firstly, Whong-Barr and Schwartz (2002) and Bley-Vroman and Yoshinaga (1992) took a rule based approach by addressing rules that relied on the distinction between to- and for-verbs. Hence, it is difficult to know whether the observed effects are due to a rule being transferred or lexical properties, those that do not correspond to a rule, but that are irregularities in a language (the latter being the kind of transfer this research looks into). Inagaki (1997) took a more lexical approach as seen in Table 4, but as mentioned in this review, the results were inconclusive, which might have been due to methodological issues.

Secondly, most of the languages involved in studies about fine-grained transfer of the DA had different restrictions, even the language being learnt —English. It is our belief that having Spanish, a language without DA, as target the language of this study will allow for a clearer view of transfer. The rationale for this assumption is that learners do not have to acquire new constraints for Spanish but a regular rule without exceptions. Since Spanish has no restrictions its restrictions cannot hinder transfer effects from English and Dutch; thus, transfer effects should be more transparent. That is what is expected, as there is currently no evidence in that regard because previous studies looking into the DA with Romance languages looked only into wholesale transfer (see Perpiñán and Montrul, 2006; and White, 1987, 1991).

Thirdly, little work has been done on L3A type of transfer (Slabakova, 2012) and not all studies align in the same direction. In addition, none of the studies has looked into a language combination in which the L1 and L2 shared a given feature that was not present in the L3 as this study does. Being one of the features already present in the L1 or the L2 it might be the case that transfer is already biased towards a source —as the TPM would predict—; hence, the most similar feature would be transferred. In this study, both languages are equally likely to be transferred with regard to similarity of the feature in the L3.

In order to address this study’s questions, the design was based on that of Perpiñán and Montrul (2006), taking Spanish as the target language of the study. Participants were native speakers of Dutch. In the Netherlands English is compulsory at school from age 9-12, which makes it instantly their L2. Thus, this design employed an L1 and L2 with the Germanic DA,
each with different constraints on the DA. The L3 was Spanish, a language without DA. The questions asked regarding our language combination were: (1) do learners of Spanish show the same preferences with regard to order of the complements as Spanish native speakers; and is the acceptability of the DOD transferred to the learners’ L3? If so, (2) is it wholesale transfer or are specific constraints transferred from the L1 and/or L2 depending on Spanish proficiency? (3) Do the same patterns of transfer hold for different levels of attainment across learners at different developmental stages in terms of their acquisition of the English DA restrictions?

With regard to the first questions we expect results in line to those of Perpiñán and Montrul (2006) and White (1987, 1991); thus, finding transfer of the DA, which diminishes as proficiency in the L3 increases.

The second and third research questions were addressed based on the verb types outlined in Table 5. These verb types contrast the availability of the DOD for specific verbs (and their translation equivalents) across the three languages. Verbs in Both-DOD allow the DOD in English and Dutch, those in English-DOD only in English, in Dutch-DOD Dutch allows the DOD, but in No-DOD neither language allows the DOD for the verbs under analysis.

### Table 5
**Availability of the DOD in each language according to verb type and sentence examples for each verb type**

<table>
<thead>
<tr>
<th>Verb type</th>
<th>Sp</th>
<th>En</th>
<th>Nd</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Both-DOD</td>
<td>X</td>
<td>OK</td>
<td>OK</td>
<td>Sp: * Pagó el empleado el sueldo</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>En: He paid the employee the salary</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Nd: Hij betaalde de werknemer het salaris</td>
</tr>
<tr>
<td>English-DOD</td>
<td></td>
<td>OK</td>
<td>X</td>
<td>Sp: * Horneó el hijo el pastel</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>En: He baked the son the cake</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Nd: * Hij heeft de zoon de taart gebakken</td>
</tr>
<tr>
<td>Dutch-DOD</td>
<td>X</td>
<td>OK</td>
<td>X</td>
<td>Sp: * Donó la chica la ropa</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>En: *She donated the girl the clothes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Nd: Zij schenkde het meisje de kleren</td>
</tr>
<tr>
<td>No-DOD</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Sp: * Mezclo el niño el cereal</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>En: * I mix the child the cereal</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Nd: * Ik mengte het kind de cornflakes</td>
</tr>
</tbody>
</table>

*Note:* Sp=Spanish, En=English, Nd=Dutch, X=ungrammatical DOD, OK=grammatical DOD, *=ungrammatical sentence in the targeted language.

Since the literature does not allow for univocal predictions for the second and third questions the following outcomes depending on the type and source of transfer were predicted (see Table 6). Firstly, transfer is more present the lower the proficiency. Then, if transfer of the feature is wholesale, the same preferences are expected across all verb types, if it is not, it would vary with regard to verb types. If the source of transfer were only the L1, participants would pattern similarly in verb types Both-DOD and Dutch-DOD and prefer significantly less the DOD in English-DOD and No-DOD, which would behave alike. If transfer came from the L2, participants would pattern similarly in verb types Both-DOD and English-DOD but behave significantly different from Dutch-DOD and No-DOD, which would be similar to one another. Lastly, if transfer came from both languages simultaneously participants would show transfer in Both-DOD, English-DOD, and Dutch-DOD, but not as much in No-DOD.
Table 6  
*Predictions with regard to type and source of transfer*

<table>
<thead>
<tr>
<th>Source of transfer</th>
<th>Type of transfer</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fine-grained</td>
</tr>
<tr>
<td>L1</td>
<td>Both-DOD = Dutch-DOD ≠ English-DOD = No-DOD</td>
</tr>
<tr>
<td>L2</td>
<td>Both-DOD = English-DOD ≠ Dutch-DOD = No-DOD</td>
</tr>
<tr>
<td>Both</td>
<td>Both-DOD ≠ English-DOD = Dutch-DOD ≤ No-DOD</td>
</tr>
</tbody>
</table>

*Note:* Green = DOD is allowed, red = DOD is disallowed. ≠ means no significant difference is to be found across verb types, ≤ a significant difference is to be found, ≤ equal or higher acceptance of the DOD.
Chapter 3. Method

3.1. Participants

There were 91 participants in the current experiment altogether between control and experimental groups. There were three groups, the experimental group, a Spanish control group, and an English control group. Participants in the experimental group were recruited online by making available a linguistic background questionnaire to the departments with Spanish classes at Radboud University, Utrecht University, and Leiden University, as well as to their language centers. It was also distributed among language schools and HBO centers teaching translation from Spanish. In addition, the study was published at Radboud University’s SONA system.

In total we got 57 respondents for our experimental group, of which 7 spoke other languages at more than A1 level or reported being exposed to other languages >10% of the time, 3 found the Spanish test too difficult, and 19 dropped out. Hence, the final experimental group was composed of 28 people (19 female, 9 male), mean age 27.07 (age range 18-69). See the appendix for more detailed information on all our participants.

Participants came from different backgrounds and study levels. 25 participants learnt Spanish in a formal environment —i.e. university, language school—, whereas only 3 began the learning process on their own. The profile that was aimed for was Dutch native speakers with English L2 and who had been or were learning Spanish. No specific proficiency level was required. Knowledge of French and German at high school level was not considered an exclusion criterion. Knowledge of other languages at A1 or beginner level was not taken into account as long as participants did not report exposure to them in their daily lives. Participants who reported low exposure 5-10% and further knowledge of languages with no DA —i.e. other Romance languages— were still included in the sample, although pinpointed as likely to differ from the other participants. In this manner, we were still able to verify whether they behaved differently from those fitting the profile.

To gather the Spanish control group the survey was administered online via social media, friends, and acquaintances. The final sample was of 46, from which those with knowledge of Dutch were subtracted in order to prevent possible effects of reverse transfer from happening. The final sample was of 34 people, with mean age 36.7 (age range 19-60). Several of the respondents were bilingual with Catalan, which was not expected to be a problem, since the feature under observation behaves in the same manner in Catalan. The majority spoke two to three languages in sum, including Spanish. Most of our participants reported speaking the European variety of Spanish, the only exceptions being a Mexican, a Peruvian, and a Colombian speaker, who were kept in the sample since no apparent difference was present with regard to the rest of the participants. Detailed information regarding each participant can be found in the appendix.

The English control group was recruited by the same means. The final sample consisted of 29 people, of which none had to be excluded. There were 21 females and 8 males, mean age of 29.3 (range 18-57). Most of them reported speaking American English (N=8) or British English (N=13), only four people reported different dialects (Australian, Trinidadian, Irish, and a mixture). Again, the majority spoke two to three languages including English, regardless of the languages spoken the behavior was coherent with that of monolinguals.

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3 Those who dropped out merely did not give an explanation in most cases and did not reply to our emails, which were the only means of communication we could use to reach them. The few who did reach out and communicate the reason for which they dropped out said that it was due to the length of the study (despite the fact that in the intake form the length of the experiment was already specified).
Since the variety of languages spoken by English participants was large more information can be found in the appendix.

Participants filling out the questionnaire in person were given breakfast (7 participants) and the other participants who did all the testing online took part in a raffle with three prizes (2x15€ and 1x20€). Control groups received no compensation.

3.2. Materials

The experimental items were created according to verb types in Table 7. There were 6 verbs belonging to each verb type each verb belonged to only one of the types. In total, we had 24 verbs.

Table 7
Availability of the DOD in each language according to verb type and sentence examples for each verb type.

<table>
<thead>
<tr>
<th>Verb type</th>
<th>Sp</th>
<th>En</th>
<th>Nd</th>
<th>Examples</th>
</tr>
</thead>
</table>
| Both-DOD  | X           | OK       | OK         | Sp: * Pagó el empleado el sueldo
En: He paid the employee the salary
Nd: Hij betaalde de werknemer het salaris                  |
| English-DOD | OK        | X        |            | Sp: * Horneó el hijo el pastel
En: He baked the son the cake
Nd: * Hij heeft de zoon de taart gebakken                  |
| Dutch-DOD | X           | OK       |            | Sp: * Donó la chica la ropa
En: *She donated the girl the clothes
Nd: Zij schenkde het meisje de kleren                      |
| No-DOD    | X           | X        | X          | Sp: * Mezclo el niño el cereal
En: * I mix the child the cereal
Nd: * Ik meng het kind de cornflakes                       |

Note: Sp=Spanish, En=English, Nd=Dutch, X=ungrammatical DOD, OK=grammatical DOD, *=ungrammatical sentence in the targeted language.

This classification of verbs was based on the studies by Gries & Stefanowitsch (2004), Haemers (2012), and Colleman (2009), along with the judgment of native speakers. Firstly, verbs were distributed according to the present types of verbs. After that, verbs being biased towards PDs or DODs in English and Dutch respectively were controlled for. To achieve this goal, two corpus studies, Colleman (2009) and Haemers (2012), were used along with the intuitions of a Dutch native speaker. Since for English studies exploring the targeted verbs were not found, a short online survey on Qualtrics was carried out. It lasted approximately 5 minutes. The questionnaire was administered to English native speakers who were asked: ‘Which sentence sounds best to you?’. Then they were given three options: a PD structure, a DOD, or both (see example 7). The option neither was not provided because the goal was to discover the verbs’ bias and such option would have not been informative. The order of 1. and 2. were randomized as well as the order of the questions. The numbers were not present in the survey. In total, 28 participants took part in the questionnaire. The question was asked once for each verb that allowed the DOD alternate according to preliminary research. Finally, based on the aforementioned works and the survey’s outcome, six verbs were chosen for each verb type so that three would be biased towards DOD and three towards PD constructions in verb types Both-DOD and Dutch-DOD. The verbs had the same bias in English and Dutch, for instance, to rent, verhuren in Dutch, was biased in both languages towards the PD. However, this was not possible for the
English-DOD verbs, since all verbs were biased towards PDs, which might be due to the low frequency of grammatical DOD constructions in for-verbs.

(7) Which sentence sounds best to you?
   1. James baked the cookies for the students.
   2. James baked the students the cookies.
   3. Both.

The verbs that were finally selected are presented in Table 8. Using these verbs, two versions of the experimental materials were created, one in Spanish and one in English because participants were tested in both languages. As seen in the section on the DA, English presents a DA similar to Dutch; however, the translation of the DOD into Spanish would be ungrammatical. For this reason, and following Perpiñán and Montrul (2006), each verb was tested twice in Spanish, once for complement order DO-IO versus IO-DO and once for PD versus ungrammatical DOD in Spanish (see (8) and (9) below). Since each verb had to be tested in both situations it appeared twice. However, in order to disguise this, the contexts and target sentences differed; thus, only the verb was held constant. Hence, the Spanish test had 48 experimental items. A test battery in English was also created in order to assess their success in the acquisition of the English DA’s restrictions in the Dutch speakers, in this case only PD versus DOD preferences were tested, for this reason the English test had 24 items.

<table>
<thead>
<tr>
<th>Table 8</th>
<th>Verbs used in the study, their biases and translations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Verb type</strong></td>
<td><strong>Bias</strong></td>
</tr>
<tr>
<td>Both-DOD</td>
<td>DOD</td>
</tr>
<tr>
<td></td>
<td>DOD</td>
</tr>
<tr>
<td></td>
<td>DOD</td>
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<tr>
<td></td>
<td>PD</td>
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<tr>
<td></td>
<td>PD</td>
</tr>
<tr>
<td></td>
<td>PD</td>
</tr>
<tr>
<td>English-DOD</td>
<td>PD</td>
</tr>
<tr>
<td></td>
<td>PD</td>
</tr>
<tr>
<td></td>
<td>PD</td>
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<tr>
<td></td>
<td>PD</td>
</tr>
<tr>
<td></td>
<td>PD</td>
</tr>
<tr>
<td>Dutch-DOD</td>
<td>DOD</td>
</tr>
<tr>
<td></td>
<td>DOD</td>
</tr>
<tr>
<td></td>
<td>DOD</td>
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<tr>
<td></td>
<td>PD</td>
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<tr>
<td></td>
<td>PD</td>
</tr>
<tr>
<td></td>
<td>PD</td>
</tr>
<tr>
<td>Both-DOD</td>
<td>-</td>
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<td></td>
<td>-</td>
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<td>-</td>
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<tr>
<td></td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>-</td>
</tr>
</tbody>
</table>

4 This verb was not tested for in English, as it is ungrammatical in the construction needed; instead, to repeat was used twice, as Dutch does allow for both constructions and it is assumed that the verb behaves alike.
The means of testing was a GJT as in Perpiñán and Montrul (2006). As discussed in the introduction, several studies investigating transfer and the DA have used a GJT to approach the respective phenomena (i.e. Whong-Barr, 2002; Bley-Vroman and Yoshinaga, 1992; Inagaki, 1997). Even though it has its limitations, it is a time efficient way to evaluate receptive competences and it allows for an easy translation of the task in a comparable way across languages. Since testing participants in person was not an option due to the lack of enough participants in the vicinity, this setting also enabled to administer all the tests online.

The experimental items provided a short context followed by two sentences, the option both, and the option neither. Participants were not asked for grammaticality but for appropriateness (Perpiñán and Montrul, 2006), as we wanted to avoid that they resorted to their book knowledge instead of their intuitions. Perpiñán and Montrul's (2006) question was adapted, since theirs was in English and the exact translation in Spanish sounded unnatural. The question asked in this study was 'Which sentence is more appropriate in the context?' whilst they asked 'Which one feels right in this context?'. In the Spanish test, order was tested (DO-IO vs IO-DO) and the acceptability of the DOD (see (8) and (9) for stimuli samples). The English test only had the latter. The complete list of items for both tests can be found in appendices E and F.

(8) **Order stimulus sample**
- **Context:** Ya que fue el cumpleaños de la niña hicieron una fiesta con muchos regalos y…
  ‘Since it was the girl’s birthday they threw a party with many gifts and…’
- **DO-IO**...toda la familia deseó un feliz cumpleaños a la niña.
  \[\text{ACC-DO} \quad \text{DAT-IO}\]
  ‘...the whole family wished a happy birthday to the girl’
- **IO-DO**...toda la familia deseó a la niña un feliz cumpleaños.
  \[\text{DAT-IO} \quad \text{ACC-DO}\]
  ‘...the whole family wished (*to) the girl a happy birthday’

Ambas
‘both’
Ninguna
‘neither’

(9) **Acceptability of the DOD stimulus sample**
- **Context:** La chica estaba en su último año de carrera y toda la familia quería que terminase pronto para celebrarlo.
  ‘The girl was in the last year of her Bachelor’s degree and her whole family wanted her to finish soon in order to celebrate.’
- **PD**
  Toda la familia deseó mucha suerte a la chica.
  \[\text{ACC-DO} \quad \text{PREP} \quad \text{DAT-IO}\]
  ‘The whole family wished lots of luck to the girl.’
- **DOD**
  Toda la familia deseó la chica mucha suerte.
  \[\text{DAT-IO} \quad \text{ACC-DO}\]
  ‘The whole family wished the girl lots of luck.’

Ambas
As discussed in the section on the DA, animacy, specificity, length, etc., play a role in the selection of the alternation. In order to prevent these factors from intervening all DOs and IOs followed the same structure, which was an article followed by a noun, and in some cases an adjective was added. Since no literature reporting the exact effects of using different structures in GJTs to assess transfer of the DOD was found, this structure was used and kept constant to avoid unexpected confounding factors. All nouns and adjectives used in the DOs and IOs in the Spanish test battery were of the same length, taking syllables as a measure. The English battery test was a translation of the PD versus DOD stimuli in Spanish, so there was more variation in the English GJT. In addition, given that Spanish merges the preposition with the definite masculine article \((a + \text{el} = \text{al})\) the use of feminine nouns \((a + \text{la} = \text{a la})\) was prioritized, so the preposition was less likely to be overlooked due to fast reading. When creating the items the clitic \(le\) —which has been discussed in the Spanish DA section— was not used. The rationale for it was that, if it had been present, it would have not been a word-to-word translation of the Germanic DOD; hence, it was avoided in order to be able to have a fully comparable structure that matched the Germanic DOD.

Finally, 24 filler items were added with V2 position as characteristic (see (10) and (11)). In this study’s language combination Dutch is the only language to use V2 actively and to consist in the verb always taking the second position in a neutral sentence or the final one in relative clauses. We used neutral sentences as well as relative clauses, as the first option did not provide a clear cut grammatical/ungrammatical dichotomy in Spanish, whereas the verb final in relative clauses is completely ungrammatical in Spanish and English.

(10) V2 neutral sentence stimulus sample
Context: El chico fue a Barcelona. No sabía nada sobre la ciudad, pero le encantó conocer gente allí. Cuando volvió les dijo a sus amigos:
‘The boy went to Barcelona, he didn’t know anything about the city beforehand, but he does know how people are. He always says:

Canonical a) En Barcelona la gente es muy simpática.
P-P-LOC NP-SUBJ VERB ATRIB
‘In Barcelona people are really nice.’
V2 b) ?En Barcelona es la gente muy simpática.
P-P-LOC VERB NP-SUBJ ATRIB
*‘In Barcelona are people really nice.’
Ambas
‘both’
Ninguna
‘neither’

(11) V2 relative clause stimulus sample
Context: Quedamos unos cuantos amigos para ir a una fiesta e invité a una amiga nueva, les expliqué...
‘A few friends decided to go to a party and I invited a new friend of mine, I told them...’

Canonical a) ...que era la chica que llevaba el vestido rojo.
REL VERB NP-SUBJ REL VERB NP-DO
‘...that she was the girl in the red dress.’

V2

* b) …que la chica era que el vestido rojo llevaba.

(verb final in relative clauses) Ambas ‘both’ Ninguna ‘neither’

Options a) and b) were randomized in each stimulus, whereas both and neither were always in the same position. In addition, the 72 items of the Spanish and the 48 items of the English test were also randomized.

The Spanish battery test was revised by a Spanish philologist specialized in teaching Spanish as a Foreign Language. It was also run as a trial on a Dutch individual who had taken the Bachelor program in Spanish Language and Culture at Radboud University. The needed adjustments were made and they both confirmed that students at A2 level should be able to convey the general meaning of the stimuli as well as that of the targeted sentences, thus, A2 knowledge of Spanish being sufficient to take part in the experiment. As for the English test battery, it was also revised by an English native speaker and some translations were modified in order for them to sound more natural. Any remaining mistakes are solely ours.

3.3. Procedure

All tests were administered via the platform Qualtrics, the only exception being the linguistic background questionnaire administered to 7 participants in a classroom setting.

Firstly, participants had to fill in an online version of the LEAP-Questionnaire (Blumenfeld and Kaushanskaya, 2007) which was adapted to suit this research (the adapted version can be found in Appendix C). The LEAP-Q is a self-reporting language background questionnaire. Participants were told that they would provide some data and then continue with proficiency tasks in English and Spanish. After providing data on their linguistic background they continued by providing specific data on their acquisition of English and by completing the LEXTALE (Lemhöfer and Broersma, 2012) proficiency task for English. This task was chosen due to its simplicity, time efficiency, and proven validity (Lemhöfer and Broersma, 2012). Then, participants continued by providing the same data about how they learnt Spanish and completed the Spanish version of the LEXTALE (Izura, Cuetos, and Brysbaert, 2014). Unfortunately, the Spanish and the English versions of the LEXTALE were not equivalent, since negative scores appear in the Spanish version. Carrying out the whole survey took about 15 to 20 minutes all in all.

After completion, participants were screened for suitability to participate in the study. Those fitting the profile were sent an email with instructions on the next two surveys. Half of the participants were told to begin with the Spanish battery test and the other half with the English version of it in order to counterbalance them. Special emphasis was made on following their intuitions, as well as in completing the test in one sitting and without revising their answers. However, they were free to take the tests at the most convenient time, not necessarily one immediately after the other. Instructions were provided in the welcome page. Additionally, in the English test participants were asked whether they wanted to receive more information about this research upon completion and how they wanted to be rewarded afterwards. The Spanish test took approximately 20 minutes to complete, consisting of 9 pages with 8 questions per page; whereas the English version lasted 15 minutes, consisting of 6 pages with 8 questions each. Both test batteries can be
found in appendices E and F with their respective instructions and format. However, the order there is not randomized. As mentioned in the Materials section, in the actual test the first two options were randomized as well as the order of the items.

As reported, in order to obtain a control baseline to compare the participants to, the Spanish and English tests were administered to native speakers respectively. The stimuli and instructions were exactly the same as for the experimental group; the only difference in these tests with regard to that administered to Dutch native speakers were the data required beforehand. People in the control groups only had to self-report on their age, gender, native language(s) and knowledge of other languages. The duration of the tests was the same, about 20 minutes for Spanish and about 15 for the English.

3.4. Data coding

All data was recorded in Qualtrics and then each participant was given a numerical ID, which was used throughout all the coding. When coding, the option neither was regarded as uninformative, thus it was left out of the analyses and percentages were calculated on the basis of total answers minus neithers —i.e. \( \text{total of a choices in a given verb type)} / \left( a + b + \text{both} \right) \). All the reported values are percentages. Neither was included only in the descriptive statistics.

Firstly, a median split was performed on Spanish proficiency, thus, all of those with an \( \leq 18.33\% \) of proficiency in Spanish were labeled as low proficiency, whereas \( >18.33\% \) were coded as high proficiency learners.

Secondly, percentages regarding order preference in the Spanish test were calculated in order to address the first research question. Thus, the study reports the preference for the different choices —DO-IO, IO-DO and both— in percentages. When looking into order, all choices were grammatical, although IO-DO is marked in Spanish. Since there was no clear cut distinction grammatical/ungrammatical (DO-IO, IO-DO, and both) were assessed separately following Perpiñán and Montrul (2006). The same process was followed to assess preference for PD, DOD, and both in the DOD condition. In this manner, the results regarding complement order and acceptability of the DOD were comparable.

Thirdly, percentage preferences for PD and DOD+both choices were also calculated for each verb type in the PD versus DOD sentences. In this case, DOD and both were grouped together as they both included the DOD, which is ungrammatical in Spanish, whilst PD was the only grammatical option. In the English test there was only the distinction of grammatical/ungrammatical in two of the four verb types —Dutch-DOD and No-DOD. For the sake of comparability, it was decided to group the choices in the same manner as in the Spanish test.
Chapter 4. Results

4.1. Wholesale transfer of the DA: Object position with preposition and Double Object Dative

To answer the first research question, namely whether learners had different preferences regarding object order in Spanish and whether learners transferred the DOD, it was observed whether Dutch speakers with different degrees of proficiency (high and low) in Spanish differed from Spanish native speakers (NSs) in their preferences with regard to object order and the Double Object Dative (DOD). These preferences were observed by means of a GJT. Neither was an option we did not expect to find often, as there was always a grammatical choice; nevertheless, several Spanish NSs chose it more frequently than expected. In order to report on it, it was included in the descriptive statistics, but it was not included in further analyses, as it was deemed uninformative to the present study (see the Discussion).

4.1.1. Object position

As discussed in the section on the DA in Spanish the canonical order of the complements is DO-IO, whereas IO-DO is grammatical although perceived as marked (however, some contexts might prefer IO-DO due to pragmatics). Answer a was coded as DO-IO order, b as IO-DO, and both and neither remained the same.

The graph below (Figure 3) shows all groups choosing the DO-IO order over 50% of the time. Despite all groups follow a similar pattern, it is also noticeable that the totals differ. The graph reflects that Confidence Intervals (CIs) increase as proficiency decreases, thus the lower the proficiency the more variance. NSs chose neither more often than the experimental groups. The means, Standard Deviations (SDs), and ranges of each group per answer can be found in Table 9. In it the generally high values in the SDs reflect the wide variance already present in the CIs in Figure 3.

Figure 3. Mean percentages of choices of DO-IO, IO-DO and both divided by proficiency groups for object position.
Table 9
Object position means, SDs and ranges for object position for each proficiency group

<table>
<thead>
<tr>
<th>Answer</th>
<th>Group</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>DO-IO</td>
<td>L</td>
<td>61.9</td>
<td>28.4</td>
<td>4.2-100</td>
</tr>
<tr>
<td></td>
<td>H</td>
<td>68.8</td>
<td>21.8</td>
<td>37.5-100</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>55.9</td>
<td>23.5</td>
<td>8.3-95.8</td>
</tr>
<tr>
<td>IO-DO</td>
<td>L</td>
<td>12.2</td>
<td>19.6</td>
<td>.0-66.7</td>
</tr>
<tr>
<td></td>
<td>H</td>
<td>1.8</td>
<td>2.7</td>
<td>.0-8.3</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>5.3</td>
<td>6.2</td>
<td>.0-21.1</td>
</tr>
<tr>
<td>Both</td>
<td>L</td>
<td>20.8</td>
<td>26.8</td>
<td>.0-91.7</td>
</tr>
<tr>
<td></td>
<td>H</td>
<td>25.6</td>
<td>22</td>
<td>.0-62.5</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>29.8</td>
<td>25.8</td>
<td>.0-91.7</td>
</tr>
<tr>
<td>neither</td>
<td>L</td>
<td>5.1</td>
<td>8.4</td>
<td>.0-29.2</td>
</tr>
<tr>
<td></td>
<td>H</td>
<td>3.9</td>
<td>8.2</td>
<td>.0-29.2</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>8.6</td>
<td>12.9</td>
<td>.0-50</td>
</tr>
</tbody>
</table>

Note: NS = Native Speakers, H = high proficiency learners, L = low proficiency learners.

Data was tested for normality by means of the Shapiro-Wilk test. It was observed that the assumption of normality held for DO-IO, but was violated in most cases, see Table 10 below. Due to the violation of the normality assumption caution is needed when interpreting the results.

Table 10
Shapiro-Wilk’s normality test on responses regarding object position

<table>
<thead>
<tr>
<th>Response</th>
<th>Proficiency group</th>
<th>F</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>DO-IO</td>
<td>Low</td>
<td>.943</td>
<td>14</td>
<td>.452</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>.914</td>
<td>14</td>
<td>.179</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>.944</td>
<td>34</td>
<td>.079</td>
</tr>
<tr>
<td>IO-DO</td>
<td>Low</td>
<td>.638</td>
<td>14</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>.688</td>
<td>14</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>.795</td>
<td>34</td>
<td>.000</td>
</tr>
<tr>
<td>Both</td>
<td>Low</td>
<td>.793</td>
<td>14</td>
<td>.004</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>.906</td>
<td>14</td>
<td>.179</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>.918</td>
<td>34</td>
<td>.014</td>
</tr>
<tr>
<td>Neither</td>
<td>Low</td>
<td>.664</td>
<td>14</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>.560</td>
<td>14</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>.722</td>
<td>34</td>
<td>.000</td>
</tr>
</tbody>
</table>

Note: Low = low proficiency, High = high proficiency, NS = Spanish native speakers. Significant results show a violation of normality.

In order to detect outliers, boxplots were used. In total, four participants behaved like extreme outliers. In the low proficiency group participant 14 was an extreme outlier in choosing IO-DO (16 times out of 24), whereas participants 32 (4/24) and 10 (7/24) where outliers in the option neither. In the high proficiency group only participant 40 (7/24) was spotted as an extreme outlier for neither. No extreme outliers were found among the NSs. Given that extreme data points did not affect the results, all participants were kept in the sample.
To analyze the results with regard to object position a one way ANOVA was run on each of the options (DO-IO, IO-DO, and Both). As mentioned, all three options are grammatical. As reported, normality held for DO-IO across proficiency groups, but it did not for the other choices. Proficiency group was the independent between-subjects variable and preference for a given choice the dependent variable.

In choice DO-IO homogeneity was not violated according to Levene’s test. There were not any significant differences between groups in choosing DO-IO $F(2, 59)=.692, p=.505$. For option both homogeneity also held. In this case there were not any significant differences between groups either, $F(2, 59)=.696, p=.503$. Regarding choice IO-DO homogeneity was violated at $F(2,59)=7.871, p=.001$ according to Levene’s test. Since homogeneity was violated significant differences between groups were checked for by means of Welch’s test, which showed significant differences between groups, $F(2, 27.437)=5.055, p = .014$. Finally, since significant differences between proficiency groups were found in answer IO-DO, a post hoc analysis using Games-Howell test was performed (see Table 11), which showed that high proficiency speakers differed from Spanish NSs by choosing significantly less often option IO-DO. According to Figure 3 below it seems as though low proficiency learners and high proficiency learners should differ the most.

### Table 11

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean difference</th>
<th>$P$</th>
<th>Direction of the effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>10.4</td>
<td>.160</td>
<td>-</td>
</tr>
<tr>
<td>High</td>
<td>6.7</td>
<td>.444</td>
<td>-</td>
</tr>
<tr>
<td>NS</td>
<td>-3.7</td>
<td>.026</td>
<td>NS&gt;High</td>
</tr>
</tbody>
</table>

*Note: NS = Spanish native speakers.*

**Figure 3.** Mean percentage of DO-IO, IO-DO and both choices divided for each proficiency groups in the order condition.
4.1.2. Acceptance of the Double Object Dative

As discussed in the section about the DA, the DOD is not allowed in Spanish, only the PD is grammatical, even when the IO is placed before the direct object the preposition is required. Hence, the goal here was to observe whether L3 learners of Spanish transferred the DOD existing in their L1 and L2 into their grammaticality judgments of Spanish. In doing so, wholesale transfer of the DA into Spanish was observed.

The means, SDs and ranges of each group can be found in Table 12. The data graphed in Figure 4 shows that all groups chose PD over 60% of the time. However, patterns are different in each group. Overall, the most choices were PD. Nevertheless, the low proficiency group chose the ungrammatical options (DOD and/or both) more often than the other groups and even the high proficiency group selected the ungrammatical structures. Although the high proficiency group accepted the DOD almost exclusively when combined with the PD by choosing both, this option was still ungrammatical, since it entailed that DOD was considered acceptable. The CIs visualize that there was quite some variance in the learner groups, which was not found to the same extent in the Spanish NSs, who showed narrower CIs. As it was the case for object order, NSs also chose neither more often than learner groups. In Table 12 generally high values in the SDs reflect the variance present in the CIs in Figure 4.

![Figure 4. Acceptance of the DOD, mean percentages of PD, DOD, both and neither choices divided by proficiency groups.](image-url)
Table 12
Summary of the means, SDs and ranges for DOD acceptance

<table>
<thead>
<tr>
<th>Answer</th>
<th>Group</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>L</td>
<td>62.8</td>
<td>22.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>H</td>
<td>81.2</td>
<td>22.3</td>
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<td></td>
<td></td>
<td>NS</td>
<td>89</td>
<td>12.8</td>
</tr>
<tr>
<td>PD</td>
<td>L</td>
<td>19.3</td>
<td>23</td>
<td>.0-83.3</td>
</tr>
<tr>
<td></td>
<td>H</td>
<td>.6</td>
<td>1.5</td>
<td>.0-4.8</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>4.8</td>
<td>8</td>
<td>.0-29.2</td>
</tr>
<tr>
<td>DOD</td>
<td>L</td>
<td>13.1</td>
<td>12.7</td>
<td>.0-33.3</td>
</tr>
<tr>
<td></td>
<td>H</td>
<td>14.0</td>
<td>18.9</td>
<td>.0-58.3</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>1.6</td>
<td>3.8</td>
<td>.0-20.8</td>
</tr>
<tr>
<td>both</td>
<td>L</td>
<td>14.0</td>
<td>18.9</td>
<td>.0-58.3</td>
</tr>
<tr>
<td></td>
<td>H</td>
<td>2.3</td>
<td>5.6</td>
<td>.0-20.8</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>1.6</td>
<td>3.8</td>
<td>.0-20.8</td>
</tr>
<tr>
<td>neither</td>
<td>L</td>
<td>4.8</td>
<td>8</td>
<td>.0-29.2</td>
</tr>
<tr>
<td></td>
<td>H</td>
<td>2.3</td>
<td>5.6</td>
<td>.0-20.8</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>1.6</td>
<td>3.8</td>
<td>.0-20.8</td>
</tr>
</tbody>
</table>

Note: NS = Native Speakers, H = high proficiency learners, L = low proficiency learners.

Data was tested for normality by means of the Shapiro-Wilk test. The assumption of normality was violated in all cases but for low proficiency learners choice of the PD (see Table 13). The data for which the assumption of normality did not hold regarding the PD was skewed to the left, whereas for DOD, both, and neither it was skewed to the right. The violation of normality calls for a cautious look at the statistical results.

Table 13
Shapiro-Wilk’s normality test. Transfer of the DOD data

<table>
<thead>
<tr>
<th>Response</th>
<th>Proficiency group</th>
<th>F</th>
<th>df</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>PD</td>
<td>Low</td>
<td>.954</td>
<td>14</td>
<td>.630</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>.797</td>
<td>14</td>
<td>.005</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>.823</td>
<td>34</td>
<td>.000</td>
</tr>
<tr>
<td>DOD</td>
<td>Low</td>
<td>.810</td>
<td>14</td>
<td>.007</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>.584</td>
<td>14</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>.434</td>
<td>34</td>
<td>.000</td>
</tr>
<tr>
<td>Both</td>
<td>Low</td>
<td>.850</td>
<td>14</td>
<td>.022</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>.747</td>
<td>14</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>.440</td>
<td>34</td>
<td>.000</td>
</tr>
<tr>
<td>Neither</td>
<td>Low</td>
<td>.649</td>
<td>14</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>.649</td>
<td>14</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>.750</td>
<td>34</td>
<td>.000</td>
</tr>
</tbody>
</table>

Note: Low = low proficiency, High = high proficiency, NS = Spanish native speakers. Significant results show a violation of normality.

No extreme outliers were spotted in the boxplots regarding the PD. In the DOD structure one participant (number 53, 4/24) from the high proficiency group behaved like an extreme outlier, as well as 5 participants (4, 8, 10, 14 and 43, 1/24) in the Spanish NSs group. In this group for choice both only one participant was spotted (19, 5/25) behaving like an extreme outlier. With regard to neither only one participant (10, 7/24) in the low proficiency group behaved like an extreme outlier as well as one (40, 7/24) from the high proficiency group.
Again, all participants were kept in the sample since they did not significantly affect the results.

In order to analyze wholesale transfer of the DA a one-way ANOVA was run on each of the options separately: \( a \) (PD), \( b \) (DOD), and \( both \). In this case, \( DOD \) and \( both \) were ungrammatical and thus should not be accepted by Spanish NSs; however, were there to be transfer, learners would. The between-groups independent variable was proficiency group, whilst participants’ choices \( (PD, DOD \ or \ both) \) were the dependent variable.

The assumption of normality was violated in all cases except for choice \( PD \) in the low proficiency group. However, we could not transform the data for the assumption to hold, so results should be interpreted with caution. Homogeneity was tested by means of Levene’s test and it showed that the assumption was violated in all answer choices, \( PD, F(2, 59)=18.655, p=.000; \ DOD, F(2, 59)=24.148, p=.000; \) and \( both, F(2, 59)= 19.312, p=.000. \) Since homogeneity was violated, Welch’s test was used to check for significant differences between groups. In this case, there was a main significant effect for groups in all variables: \( PD, F(2, 17.944)=16.906, p=.000; \ DOD, F(2, 18.074)=5.394, p=.015; \) and \( both, F(2, 18.372)=7.864), p=.003. \)

Considering that homogeneity was violated in the three variables and that significance was found in the three of them as well, Games-Howell post hoc test (see Table 14) was used in order to discern which groups differed from one another. When significance was present it showed low proficiency learners chose the DOD or disregarding the PD in comparison to high proficiency learners and NSs. The only exception to this pattern are NSs choosing \( both \) (which is ungrammatical) more often than learners, which will be addressed in the discussion.

![Figure 5](image)

*Figure 5. Acceptance of the DOD mean percentage of PD, DOD and both choices divided according proficiency groups.*
Table 14
Games-Howell post hoc test results for acceptance of the DOD

<table>
<thead>
<tr>
<th>Verb type</th>
<th>Proficiency group</th>
<th>Mean difference</th>
<th>P</th>
<th>Direction of the effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>PD</td>
<td>Low</td>
<td>High</td>
<td>-17.1</td>
<td>.108</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>High</td>
<td>-31.6</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>NS</td>
<td>-14.5</td>
<td>.061</td>
</tr>
<tr>
<td>DOD</td>
<td>Low</td>
<td>High</td>
<td>17.2</td>
<td>.040</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>High</td>
<td>19.1</td>
<td>.022</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>NS</td>
<td>1.8</td>
<td>.421</td>
</tr>
<tr>
<td>Both</td>
<td>Low</td>
<td>High</td>
<td>-1.0</td>
<td>1.000</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>High</td>
<td>12.5</td>
<td>.014</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>NS</td>
<td>12.6</td>
<td>.068</td>
</tr>
</tbody>
</table>

*Note: Low = low proficiency, High = high proficiency, NS = Spanish native speakers.*

4.2. Transfer of the DOD per verb type with regard to Spanish proficiency level

In these analyses variables were grouped according to the dichotomy grammatical versus ungrammatical in Spanish. Participants’ performance on the Spanish test was measured and participants grouped according to high or low proficiency were compared to Spanish NSs. The goal here was to observe transfer of the DOD versus the PD. In Spanish the grammatical option is *a*, henceforth referred to as *PD*; and *b* and *both* are grouped, since they both entail the DOD, which is ungrammatical in Spanish, henceforth this option is referred to as *DOD*. This grouping applies to all remaining analyses.

As the option *neither* has been covered in the descriptive statistics with regard to object position and the DOD, it was excluded from the descriptive statistics specific to the four verb types. The reason for this is that we worked with the same data but divided in verb types. In addition, we are unsure about what the option *neither* informs about with regard to the relevant research questions; hence, it was deemed uninformative to this study’s purposes. This section first provides the descriptive statistics of each verb type’s data and then moves towards the analyses.

4.2.1. Overview of the four verb types

*Overview of the four verb types*

Figures 6, 7 and 8 show the groups' behavior in the four verb types. The general pattern is the same across learner groups. Both-DOD verbs were the ones with the most ungrammatical choices (blue column), followed by Dutch-DOD (grey), then No-DOD (purple), and finally English-DOD (green). Spanish NSs disregarded the option across the board.
Figure 6. Mean percentages of PD and DOD preferences across verb types in the low proficiency group.

Figure 7. Mean percentages of PD and DOD preferences across verb types in the high proficiency group.
proficiency group.

Figure 8. Mean percentages of PD and DOD preferences across verb types in the group of Spanish native speakers.

4.2.2. Verb type Both-DOD: English and Dutch verbs accept the DOD

The means, SDs, and ranges per proficiency group can be seen in Table 15. Figure 9 below shows the data graphed with regard to proficiency in Both-DOD verbs, in which both Dutch and English allow the DA. As mentioned, DOD is the ungrammatical choice and PD is grammatical in Spanish. It can be observed that there is a clear decrease of preference for the DOD as proficiency increases, rates range from over 40% in the low proficiency group to the extent of almost disappearing in NSs. Alongside, the CIs are rather wide for learner groups, in line with the SDs reported in Table 15. In contrast, Spanish NSs show less variance, as there is clear refusal of the DOD and the lack of preposition in the IO.

Table 15
Summary of the means, SDs and ranges in Both-DOD

<table>
<thead>
<tr>
<th>Answer</th>
<th>Group</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>PD (grammatical)</td>
<td>L</td>
<td>56.0</td>
<td>31.3</td>
<td>.0-100</td>
</tr>
<tr>
<td></td>
<td>H</td>
<td>70.7</td>
<td>33.6</td>
<td>16.7-100</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>96.7</td>
<td>7.7</td>
<td>66.7-100</td>
</tr>
<tr>
<td>DOD (ungrammatical)</td>
<td>L</td>
<td>44.0</td>
<td>31.3</td>
<td>.0-100</td>
</tr>
<tr>
<td></td>
<td>H</td>
<td>29.3</td>
<td>33.6</td>
<td>.0-83.3</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>3.0</td>
<td>7.7</td>
<td>.0-33.3</td>
</tr>
</tbody>
</table>

Note: L = low proficiency group, H = high proficiency group, NS = Spanish Native Speakers.
The assumption of normality was violated in all verb types according to Shapiro-Wilk’s test. The assumption of normality only held for the low proficiency group, see Table 16. By means of boxplots extreme outliers were only identified in the Spanish NS group. Overall, they were found in both answers, PD (grammatical) and DOD (ungrammatical). In Both-DOD five participants (2, 7, 34, 35, and 19) behaved as extreme outliers in both answers. Four chose the grammatical option 5 out of 6 times, whilst one 4/6; regarding the ungrammatical choice the figures reverse, 1/6 and 2/6.

Table 16
Shapiro-Wilk’s normality test. Both-DOD

<table>
<thead>
<tr>
<th>Proficiency group</th>
<th>F</th>
<th>df</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>.946</td>
<td>14</td>
<td>.498</td>
</tr>
<tr>
<td>High</td>
<td>.779</td>
<td>14</td>
<td>.003</td>
</tr>
<tr>
<td>NS</td>
<td>.446</td>
<td>33</td>
<td>.000</td>
</tr>
</tbody>
</table>

Note: Low = low proficiency, High = high proficiency, NS = Spanish native speakers. Significant results show a violation of normality.

4.2.3. Verb type English-DOD: only English verbs allow the DOD
The means, SDs and ranges per proficiency group can be seen in Table 17. Figure 10 below shows the participants divided with regard to proficiency in the English-DOD verbs, in which the chosen verbs allow for the DOD in English but disallow it in Dutch. Again, the graph evinces how ungrammatical choices are inversely proportional to proficiency level. However, this occurs to a lesser extent in these verbs than in Both-DOD; here ungrammatical choices are at around 20% the most, whilst there were rates over 40% in the
previous verb type. As can be inferred from the SDs reported in Table 17 the CIs are narrower in learners of higher proficiency, even though they display more variance than NSs.

Table 17

<table>
<thead>
<tr>
<th>Answer</th>
<th>Group</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>a (grammatical)</td>
<td>L</td>
<td>79.3</td>
<td>23.7</td>
<td>16.7-100</td>
</tr>
<tr>
<td></td>
<td>H</td>
<td>89.8</td>
<td>20.0</td>
<td>40-100</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>99.0</td>
<td>4.0</td>
<td>83.3-100</td>
</tr>
<tr>
<td>bboth (ungrammatical)</td>
<td>L</td>
<td>20.7</td>
<td>23.7</td>
<td>.0-60</td>
</tr>
<tr>
<td></td>
<td>H</td>
<td>10.2</td>
<td>20.0</td>
<td>.0-16.7</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>1.0</td>
<td>4.0</td>
<td>.0-16.7</td>
</tr>
</tbody>
</table>

*Note: L = low proficiency group, H = high proficiency group, NS = Spanish Native Speakers.*

![Figure 10](image.png)

Figure 10. Mean percentages of PD and DOD choices divided by proficiency groups in English-DOD.

According to Shapiro-Wilk's test of normality, none of the groups had a normal distribution; hence, the results must be addressed with caution, see Table 18.

Table 18

<table>
<thead>
<tr>
<th>Proficiency group</th>
<th>F</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>.819</td>
<td>14</td>
<td>.009</td>
</tr>
<tr>
<td>High</td>
<td>.587</td>
<td>14</td>
<td>.000</td>
</tr>
<tr>
<td>NS</td>
<td>.259</td>
<td>33</td>
<td>.000</td>
</tr>
</tbody>
</table>
Note: Low = low proficiency, High = high proficiency, NS = Spanish native speakers. Significant results show a violation of normality.

According to boxplots, in English-DOD participants (4 and 10) were extreme outliers in the NSs group in both choices ($PD = 5/6$ and $DOD = 1/6$). No extreme outliers were spotted in the other groups.

4.2.4. Verb type Dutch-DOD: only Dutch verbs allow the DOD

The means, SDs and ranges per proficiency group can be seen in Table 19. Figure 11 below shows the data divided according to proficiency groups in Dutch-DOD verbs, in which the DOD is allowed in Dutch, but disallowed in English. The observed pattern is the same as in the two previous verb types; preference for the DOD was inversely proportional to proficiency, thus the percentage of DOD (ungrammatical) choices decreased as proficiency increased. In contrast to the previous verb type ungrammatical choices were higher than for English-DOD verbs, which were close to 40%, but not as high as those of Both-DOD. The CIs are wider in the learner groups than in the NSs, as can be inferred from the decreasing SD values as proficiency increases in Table 19 below.

![Figure 11. Mean percentages of PD and DOD choices divided by proficiency groups in Dutch-DOD.](image-url)
Table 19
Summary of the means, SDs and ranges in Dutch-DOD

<table>
<thead>
<tr>
<th>Answer</th>
<th>Group</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>PD (grammatical)</td>
<td>L</td>
<td>64.8</td>
<td>30.1</td>
<td>0.0-100</td>
</tr>
<tr>
<td></td>
<td>H</td>
<td>81</td>
<td>27.6</td>
<td>16.7-100</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>95.4</td>
<td>12</td>
<td>40.0-100</td>
</tr>
<tr>
<td>DOD (ungrammatical)</td>
<td>L</td>
<td>35.2</td>
<td>30.1</td>
<td>0.0-100</td>
</tr>
<tr>
<td></td>
<td>H</td>
<td>19</td>
<td>27.6</td>
<td>0.0-83.3</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>4.6</td>
<td>12</td>
<td>0.0-60</td>
</tr>
</tbody>
</table>

Note: L = low proficiency group, H = high proficiency group, NS = Spanish Native Speakers.

According to Shapiro-Wilk’s test the assumption of normality was only met by low proficiency speakers, see Table 20. Through boxplots extreme outliers were found in the high proficiency group and in NSs for Dutch-DOD verbs. In the high proficiency group participant 57 was an extreme outlier with regard to PD (1/6) and DOD (5/6). In the Spanish NS group six participants were outliers. 8 and 25 chose the grammatical option 5/6, 1/6 ungrammatical; participants 43, 29, and 6 chose PD 4/5 and DOD 1/5, whilst participant 19 chose PD 2/5 and DOD 3/5.

Table 20
Shapiro-Wilk’s normality test. Dutch-DOD

<table>
<thead>
<tr>
<th>Proficiency group</th>
<th>F</th>
<th>Df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>.819</td>
<td>14</td>
<td>.182</td>
</tr>
<tr>
<td>High</td>
<td>.587</td>
<td>14</td>
<td>.001</td>
</tr>
<tr>
<td>NS</td>
<td>.443</td>
<td>33</td>
<td>.000</td>
</tr>
</tbody>
</table>

Note: Low = low proficiency, High = high proficiency, NS = Spanish native speakers. Significant results show a violation of normality.

4.2.5. Verb type No-DOD: English and Dutch verbs disallow the DOD

The means, SDs, and ranges per proficiency group can be seen in Table 21. Figure 12 below shows the preferences of participants when split into proficiency groups for No-DOD, in which the DOD is disallowed in both, English and Dutch. It can be seen again that the preference for the ungrammatical choice decreased as proficiency increased, until it entirely disappeared in the NS group. Ungrammatical choices dropped again to around 30%, being lower than those of Both-DOD and Dutch-DOD verbs, but higher than in English-DOD. The width of CIs decreased with an increase in proficiency, showing less variance in line with the SDs reported in Table 21.

Table 21
Summary of the means, SDs and ranges in No-DOD

<table>
<thead>
<tr>
<th>Answer</th>
<th>Group</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>PD (grammatical)</td>
<td>L</td>
<td>69.3</td>
<td>31.5</td>
<td>16.7-100</td>
</tr>
<tr>
<td></td>
<td>H</td>
<td>87.9</td>
<td>15.3</td>
<td>66.7-100</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>100</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>DOD (ungrammatical)</td>
<td>L</td>
<td>30.7</td>
<td>31.5</td>
<td>0.0-83.3</td>
</tr>
<tr>
<td></td>
<td>H</td>
<td>12.1</td>
<td>15.3</td>
<td>0.0-33.3</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Note: L = low proficiency group, H = high proficiency group, NS = Spanish Native Speakers.
The assumption of normality did not hold for any of the proficiency groups in our sample, see Table 22. No extreme outliers were found in the sample in neither of the groups.

Table 22
Shapiro-Wilk's normality test. No-DOD

<table>
<thead>
<tr>
<th>Proficiency group</th>
<th>F</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>.846</td>
<td>14</td>
<td>.020</td>
</tr>
<tr>
<td>High</td>
<td>.706</td>
<td>14</td>
<td>.000</td>
</tr>
<tr>
<td>NS</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Note: Low = low proficiency, High = high proficiency, NS = Spanish native speakers. Significant results show a violation of normality.

### 4.2.6. Analyses on verb types with regard to Spanish proficiency

A mixed ANOVA was conducted on participants’ performance with the independent variables verb type (No-DOD, English-DOD, Dutch-DOD, Both-DOD) as within-subjects factor and proficiency group (low, high, or Spanish NS) as between-subjects factor. Performance, then, was the dependent variable; the analyses were run on the variable DOD as it is the choice that represents transfer.

Mauchly’s Test of Sphericity indicated that the assumption of sphericity had been violated, $\chi^2(5) = 19.597$, $p < .001$; and, therefore, a Greenhouse-Geisser correction was used. A mixed ANOVA showed a significant main effect of verb type, $F(2.515, 145.841)=11.677$, $p=.000$, $\eta^2_p=.168$. Proficiency groups also proved to be significantly different from one another $F(2, 58)=21.247$, $p=.000$, $\eta^2_p=.423$. Lastly, there was a significant interaction
between verb type and proficiency group, $F(5.029, 145.841)=2.785$, $p=.019$, $\eta^2_p=.088$. The biggest effect ($\eta^2$) was found for proficiency group.

Post hoc tests using the Bonferroni correction revealed that all the differences between groups were significant, see Table 23. The low proficiency group was the one with the most DOD choices and the Spanish NSs the ones with the least DOD choices. NSs differed the most from learners, whilst learners did not differ as much between them.

### Table 23
*Results of Bonferroni’s post hoc test regarding proficiency groups*

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean difference</th>
<th>$p$</th>
<th>Direction of the effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>High</td>
<td>15.0</td>
<td>.032</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>30.5</td>
<td>.000</td>
</tr>
<tr>
<td>High</td>
<td>NS</td>
<td>15.5</td>
<td>.006</td>
</tr>
</tbody>
</table>

*Note: Low = low proficiency, High = high proficiency, NS = Spanish native speakers.*

Post hoc tests using Bonferroni’s correction revealed the differences between verb types; see Table 24. The verb types behaving the most alike were English-DOD and No-DOD together with the least ungrammatical choices on the one hand, on the other Both-DOD and Dutch-DOD behaved similarly with the majority of ungrammatical choices. This suggests that the pattern of acceptance of the DOD corresponds to the allowances of Dutch verbs; nevertheless, that does not explain the non-significant difference between Dutch-DOD and No-DOD. This issue is addressed in the discussion.

### Table 24
*Results of Bonferroni’s post hoc test regarding verb type*

<table>
<thead>
<tr>
<th>Verb type</th>
<th>Mean difference</th>
<th>$p$</th>
<th>Direction of the effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Both-DOD</td>
<td>English-DOD</td>
<td>14.8</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Dutch-DOD</td>
<td>5.8</td>
<td>.255</td>
</tr>
<tr>
<td></td>
<td>No-DOD</td>
<td>11.2</td>
<td>.006</td>
</tr>
<tr>
<td>English-DOD</td>
<td>Dutch-DOD</td>
<td>-9.0</td>
<td>.008</td>
</tr>
<tr>
<td></td>
<td>No-DOD</td>
<td>-3.6</td>
<td>.622</td>
</tr>
<tr>
<td>Dutch-DOD</td>
<td>No-DOD</td>
<td>5.4</td>
<td>.135</td>
</tr>
</tbody>
</table>

*Note: Both-DOD = DOD allowed in English and Dutch, English-DOD = DOD disallowed in Dutch, Dutch-DOD = DOD allowed in Dutch, No-DOD = DOD disallowed in English and Dutch. > stands for more preference for the DOD than.*

Since a significant interaction between verb type and proficiency groups was also found, a *post hoc* Bonferroni correction was employed to examine it, see results on Table 25. When there was a significant difference, the direction of the effect indicated that learners always made more errors than NSs. In addition, the only difference that held across verb types was between low proficiency learners and NSs.

### Table 25
*Results of Bonferroni’s post hoc test regarding the interaction verb type* × *group*

<table>
<thead>
<tr>
<th>Verb type</th>
<th>Proficiency group</th>
<th>Mean difference</th>
<th>$p$</th>
<th>Direction of the effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Both-DOD</td>
<td>Low</td>
<td>14.8</td>
<td>.263</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>41.0</td>
<td>.000</td>
<td>Low&gt;NS</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>26.3</td>
<td>.002</td>
<td>High&gt;NS</td>
</tr>
<tr>
<td>English-DOD</td>
<td>Low</td>
<td>10.5</td>
<td>.208</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
After looking into the significant interactions taking the verb types as a referent, the differences between verb types within proficiency groups were analyzed, see Table 26 in the next page. In the low proficiency group the only verb type that differed significantly from others was English-DOD. In the high proficiency group only Both-DOD differed significantly from English-DOD verbs and No-DOD verbs. No significant differences were found in NSs.

Table 26

<table>
<thead>
<tr>
<th>Proficiency group</th>
<th>Verb type</th>
<th>Mean difference</th>
<th>p</th>
<th>Direction of the effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>Both-DOD</td>
<td>23.3</td>
<td>.000</td>
<td>Both-DOD&gt;English-DOD</td>
</tr>
<tr>
<td></td>
<td>Dutch-DOD</td>
<td>8.8</td>
<td>.649</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>No-DOD</td>
<td>13.3</td>
<td>.222</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>English-DOD</td>
<td>-14.5</td>
<td>.040</td>
<td>Dutch-DOD&gt;English-DOD</td>
</tr>
<tr>
<td></td>
<td>No-DOD</td>
<td>-10.0</td>
<td>.129</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Dutch-DOD</td>
<td>4.5</td>
<td>1.000</td>
<td>-</td>
</tr>
<tr>
<td>High</td>
<td>Both-DOD</td>
<td>19.0</td>
<td>.003</td>
<td>Both-DOD&gt;English-DOD</td>
</tr>
<tr>
<td></td>
<td>Dutch-DOD</td>
<td>10.2</td>
<td>.377</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>No-DOD</td>
<td>17.1</td>
<td>.048</td>
<td>Both-DOD&gt;No-DOD</td>
</tr>
<tr>
<td></td>
<td>English-DOD</td>
<td>-8.8</td>
<td>.560</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>No-DOD</td>
<td>-1.9</td>
<td>1.000</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Dutch-DOD</td>
<td>6.9</td>
<td>.735</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>No-DOD</td>
<td>2.0</td>
<td>1.000</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Dutch-DOD</td>
<td>-1.6</td>
<td>1.000</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>No-DOD</td>
<td>3.0</td>
<td>1.000</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>English-DOD</td>
<td>-3.6</td>
<td>1.000</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>No-DOD</td>
<td>1.0</td>
<td>1.000</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Dutch-DOD</td>
<td>4.6</td>
<td>.665</td>
<td>-</td>
</tr>
</tbody>
</table>

Note: Both-DOD = DOD allowed in English and Dutch, English-DOD = DOD disallowed in Dutch, Dutch-DOD = DOD allowed in Dutch, No-DOD = DOD disallowed in English and Dutch. Low= low proficiency, High = high proficiency, NS = Spanish native speakers. > stands for more preference for the DOD than.

Note: Both-DOD = DOD allowed in English and Dutch, English-DOD = DOD disallowed in Dutch, Dutch-DOD = DOD allowed in Dutch, No-DOD = DOD disallowed in English and Dutch. Low= low proficiency, High = high proficiency, NS = Spanish native speakers. > stands for more preference for the DOD than.
4.3. Acquisition of the DOD’s restrictions in English by Dutch speakers

The purpose of the English data was to assess if Dutch speakers with knowledge of English behaved like English NSs in their choices with regard to the DA. These analyses were based on the performance of Dutch L1 participants and the English NSs in the English battery test. If Dutch speakers do indeed pattern like English NSs further analyses can continue to assess whether transfer patterns observed in the Spanish test battery still hold when participants are regrouped according to their target-like performance in English.

Following the data analysis performed on the Spanish test, the answer choices DOD and both were grouped together, henceforth referred as DOD. This was done for the sake of comparability with the previous analyses performed and because even though it is not a dichotomous split between grammatical and ungrammatical in all verb types in English, it is in the verb types Dutch-DOD and No-DOD, in which the DOD is ungrammatical for the English verbs we used. The groupings were made on the basis of raw data, participants who performed 100% like English NSs and participants making 1 out 12 mistakes with regard to the allowance of DOD in the Dutch-DOD and No-DOD verbs were considered English-like. The reason only Dutch-DOD and No-DOD were taken into account was that, as previously mentioned, these verb types offer a dichotomy of grammatical versus ungrammatical, whereas Both-DOD and English-DOD verbs only reflect preferences. As interesting as preferences might be, it is only of interest to this study that Dutch speakers have acquired the restrictions of English regarding the alternation, because the goal was to look into transfer of the restrictions. Again, neither was not taken into account in the analysis as it was deemed uninformative.

4.3.1. Overview of the four verb types

Figure 13, 14 and 15 below show the results for the four verb types divided by performance. The pattern that rises overall can be seen: the English-like group behaved altogether according to the English NSs. Larger variance is visible in the CIs of the non-English-like and, despite of following the overall pattern, non-English-like participants show different preferences in each verb type. The clear pattern found in English NSs and English-like participants is consistent with a bigger preference for DOD in Both-DOD and English-DOD verbs, whilst the pattern shifts in Dutch-DOD and No-DOD verbs, where the PD is preferred in line with English’s restrictions. This overview allows strengthening the claim that the English-like group did indeed mirror the performance of the English NSs in their use of the DA’s restrictions in English.

![Figure 13. Mean percentages of PD and DOD preferences across verb types in the non-English-like group.](chart.png)
4.3.2. Verb type Both-DOD: English and Dutch verbs allow the DOD

The means, SDs, and ranges per groups divided according to English-like performance are reported in Table 27. Figure 16 below shows a preference over 70% in all groups for the DOD construction. The graph shows that the pattern was similar across groups; however, the CIs were wider for the non-English-like group, suggesting that more variance was
present, whereas English NSs and the English-like group performed more consistently. This was also corroborated by the SDs reported in Table 27.

### Table 27
**Summary of the means, SDs and ranges in Both-DOD**

<table>
<thead>
<tr>
<th>Answer</th>
<th>Group</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>PD</td>
<td>nEl</td>
<td>16</td>
<td>28.2</td>
<td>.0-100</td>
</tr>
<tr>
<td></td>
<td>El</td>
<td>28.5</td>
<td>17</td>
<td>.0-60</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>21.8</td>
<td>30.2</td>
<td>.0-60</td>
</tr>
<tr>
<td>DOD</td>
<td>nEl</td>
<td>84</td>
<td>28.1</td>
<td>.0-100</td>
</tr>
<tr>
<td></td>
<td>El</td>
<td>71.5</td>
<td>17</td>
<td>40-100</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>78.2</td>
<td>30.2</td>
<td>16.7-100</td>
</tr>
</tbody>
</table>

*Note: nEl = non-English-like group, El = English-like group, NS = English Native Speakers.*

![Figure 16](image)

**Figure 16.** Mean percentages of PD and DOD choices divided by English-like groups in Both-DOD.

According to Shapiro-Wilk’s test of normality, only data in the English-like group was normally distributed, see Table 28. Boxplots only showed participant 37 in the non-English-like group behaved like an outlier, who chose 6/6 times the DOD construction.
Table 28

Shapiro-Wilk’s normality test. Both-DOD

<table>
<thead>
<tr>
<th>Group</th>
<th>F</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-English-like</td>
<td>.649</td>
<td>15</td>
<td>.000</td>
</tr>
<tr>
<td>English-like</td>
<td>.893</td>
<td>13</td>
<td>.108</td>
</tr>
<tr>
<td>NS</td>
<td>.720</td>
<td>29</td>
<td>.000</td>
</tr>
</tbody>
</table>

Note: NS = English native speakers. Significant results show a violation of normality.

4.3.3. Verb type English-DOD: only English verbs allow the DOD

The means, SDs and ranges per English-like group are reported on Table 29. In this case only English allows the DOD, while the equivalent Dutch verbs disallow it. Figure 17 shows English-like participants and English NSs with a preference of around 60% for the PD construction, while the pattern shifted the other way around for the non-English-like group. The width of the groups’ CIs resembles each other. Nevertheless, the non-English-like group’s CIs were wider, showing more variability. The SDs reported on Table 29 are in line with our qualitative appreciations of the CIs in the graphs.

Table 29

Summary of the means, SDs and ranges in English-DOD

<table>
<thead>
<tr>
<th>Answer</th>
<th>Group</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>PD</td>
<td>nEl</td>
<td>35.9</td>
<td>29.9</td>
<td>.0-83.3</td>
</tr>
<tr>
<td></td>
<td>El</td>
<td>577</td>
<td>18</td>
<td>33.3-83.3</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>57.5</td>
<td>27.5</td>
<td>16.7-100</td>
</tr>
<tr>
<td>DOD</td>
<td>nEl</td>
<td>64.1</td>
<td>29.9</td>
<td>16.7-100</td>
</tr>
<tr>
<td></td>
<td>El</td>
<td>42.3</td>
<td>18</td>
<td>66.7-42.3</td>
</tr>
</tbody>
</table>
According to Shapiro-Wilk's test the assumption of normality was met for the non-English-like group and the NSs; see Table 30. No extreme outliers were found in this verb type.

### Table 30

Shapiro-Wilk's normality test. English-DOD

<table>
<thead>
<tr>
<th>Group</th>
<th>F</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-English-like</td>
<td>.895</td>
<td>15</td>
<td>.079</td>
</tr>
<tr>
<td>English-like</td>
<td>.901</td>
<td>13</td>
<td>.137</td>
</tr>
<tr>
<td>NS</td>
<td>.720</td>
<td>29</td>
<td>.037</td>
</tr>
</tbody>
</table>

*Note: NS = English native speakers. Significant results show a violation of normality.*

#### 4.3.4. Verb types Dutch-DOD: only Dutch verbs allow the DOD

The means, SDs and ranges per English-like performance are reported on Table 31. In this case only English disallows the DOD, whereas Dutch allows it. Hence, Dutch speakers performing like English NSs should go for the PD. The graph below proves that that was the case. Figure 18 below shows the English-like group and the English NSs display a preference of over 90% for the PD construction, the only grammatical choice in English. The non-English-like group, however, showed a preference of scarcely 65%, thus making more ungrammatical choices (about 35%). The CIs show more variance in the English-like group, nevertheless, it still overlaps with the English NSs, suggesting that no significant differences are to be found. This is not the case for non-English-like participants, who displayed more variance and had a bigger preference for the ungrammatical option. There are not any overlapping CIs. This is can also be inferred from the data with regard to the SDs on Table 31.

![Figure 18. Mean percentages of PD and DOD choices divided by English-like groups in Dutch-](image-url)
The assumption of normality held for all groups except for the English-like group, see Table 32. Boxplots evinced 7 extreme outliers in the English NSs group. 5 participants (4, 5, 17, 18, and 28) chose the ungrammatical option 1 time out of 6, whilst one (13) did so 1 out 5 times, and the remaining (14) chose it 2 out of 6 times.

4.3.5. Verb type No-DOD: Dutch and English verbs disallow the DOD

The means, SDs and ranges per English-like performance are reported on Table 33. In this case English and Dutch both disallow the DOD; hence, the only grammatical choice in both languages is PD. Figure 19 below shows the same picture as before, even though more clear-cut. English-like participants and NSs show a preference of over 95% for the PD, whilst non-English-like participants are only at 75%. As in the previous cases, the variance was smaller in the English-like group as well as for the English NSs group, whereas non-English-like was much less consistent in their behavior, which is reflected on the wider CIs. These observations are in line with the SDs reported on Table 33.
According to the results from Shapiro-Wilk’s test the assumption of normality did not hold for any group, see Table 34. Boxplots showed two extreme outliers in the English NS group and one in the English-like group. The English NS participant 13 chose the ungrammatical DOD 1 out of 5 times, whilst 17 did so 1/4. The participant in the English-like group (44) chose the DOD 1/6.

Table 34

<table>
<thead>
<tr>
<th>Group</th>
<th>F</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-English-like</td>
<td>.806</td>
<td>15</td>
<td>.004</td>
</tr>
<tr>
<td>English-like</td>
<td>.311</td>
<td>13</td>
<td>.000</td>
</tr>
<tr>
<td>NS</td>
<td>.288</td>
<td>29</td>
<td>.000</td>
</tr>
</tbody>
</table>

*Note: NS = English native speakers. Significant results show a violation of normality.*

A faulty item was removed from the analyses, item 22 (see 12). Only 7 participants out of 29 chose the expected PD. In hindsight, after revision, the item does sound rather forced and unnatural, which was probably the cause it perceived many *neither* answers. In each test, especially Spanish native speakers in the Spanish test, the option *neither* was used repeatedly across various items without there being any clear pattern. Only item 22 had choice *neither* in an almost systematical way. We believe that the constraints in creating the sentences forced unnatural constructions that native speakers disregarded. Had we pronominalized or used different objects, this might have not been an issue.

*Figure 19.* Mean percentages of PD and DOD choices divided by English-like groups in No-DOD.
(12) One of my friends loves reading and her birthday will be soon. My brother and I have decided to give her a book, so…
a) …this afternoon we will search the book for the friend.
b) …this afternoon we will search the friend the book.

4.3.6. Analyses on verb types to assess acquisition of the English restrictions in the DA

A mixed ANOVA was conducted for participants’ performance with the independent variables verb type (No-DOD, English-DOD, Dutch-DOD, Both-DOD) as within-subjects factor and proficiency group (non-English-like, English-like, English NS) as between-subjects factor. Performance, then, was the dependent variable; analyses were run on variable DOD as it is the choice that represents transfer.

Mauchly’s Test of Sphericity indicated that the assumption of sphericity had been violated, $\chi^2(5)=17.881, p=.003$; and, therefore, the Greenhouse-Geisser correction was used to check for significance. There was a significant effect of verb type ($F(2.540, 137.151)=128.472, p=.000, \eta_p^2=.704$. The performance according to the group division on the basis of English target-like performance was also significant, $F(2, 54)=15.072, p=.000, \eta_p^2=.358$. Finally, the interaction of verb type per group was not significant, $F(5.080, 137.151)=1.306, p=.265, \eta_p^2=.046$. The most significance and the biggest effect ($\eta_p$) were found per verb type. Since the purpose was to prove that English-like Dutch participants performed like English NSs, significant differences regarding verb type were not explored, only differences regarding English-like performance concerning the English DA were looked at.

The post hoc Bonferroni correction was used in order to explore differences between groups, see Table 35. Results showed that the division of participants between (non-)English-like performance was in order and that the Dutch participants grouped as English-like did indeed perform like English NSs.

Table 35

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean difference</th>
<th>$p$</th>
<th>Direction of the effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-English-like</td>
<td>English-like</td>
<td>20.6</td>
<td>.000</td>
</tr>
<tr>
<td>NS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>English-like</td>
<td>NS</td>
<td>-19.5</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.0</td>
<td>1.000</td>
</tr>
</tbody>
</table>

*Note: NS = English native speakers. > stands for more preference for the DOD than.*

4.4. Transfer of the DOD per verb type with regard to acquisition of the DOD restrictions in English

In this analysis the data from the Spanish test battery was used again. Dutch participants are compared again with Spanish NSs. In this preferences of Dutch participants regarding the DOD are analyzed when grouped according to whether they have acquired the DA restrictions of English in English. As proved in the previous section, English-like Dutch participants did pattern like English NSs in their judgments of the DA, so the DA’s restrictions of English should be available to these learners for transfer. In revisiting the data from this perspective the goal is to determine whether new patterns of transfer arise.
4.4.1. Overview of the four verb types

Figures 20, 21 and 22 below show all the verb types together for each group. Overall, both learner groups showed the most preference for DOD in Both-DOD and Dutch-DOD verbs, even though the non-English-like group seemed to show about the same amount of DOD preference in both verb types and No-DOD, whilst the English-like group did not. The English-like group showed more preference for the DOD in English-DOD verbs than in No-DOD verbs. The high preferences the non-English-like group showed in No-DOD verbs was unexpected, since the DOD is not allowed in either language. This issue is addressed in the Discussion.

![Figure 20](image1.png)

*Figure 20. Mean percentages of PD and DOD preferences across verb types in non-English-like participants.*

![Figure 21](image2.png)

*Figure 21. Mean percentages of PD and DOD preferences across verb types in English-like participants.*
4.4.2. Verb type Both-DOD: English and Dutch verbs allow the DOD

The means, SDs and ranges per English-like performance are reported in Table 36. In this case English and Dutch allow the DOD. Figure 23 below shows a preference for the DOD of around 35% in learner groups. The overall pattern was similar across learner groups; however, the CIs were wider for the non-English-like group, suggesting that more variance was present, whereas Spanish NSs and the English-like group performed more consistently. This was also corroborated by the SDs reported in Table 36.

Figure 23. Mean percentages of PD and DOD choices divided by English-like groups in Both-DOD.
Table 36
Summary of the means, SDs and ranges in Both-DOD

<table>
<thead>
<tr>
<th>Answer</th>
<th>Group</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>PD (grammatical)</td>
<td>nEl</td>
<td>65.6</td>
<td>33.2</td>
<td>16.7-100</td>
</tr>
<tr>
<td></td>
<td>El</td>
<td>60.8</td>
<td>33.3</td>
<td>0.0-100</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>971</td>
<td>7.6</td>
<td>66.7-100</td>
</tr>
<tr>
<td>DOD (ungrammatical)</td>
<td>nEl</td>
<td>34.4</td>
<td>33.2</td>
<td>0.0-83.3</td>
</tr>
<tr>
<td></td>
<td>El</td>
<td>39.2</td>
<td>33.3</td>
<td>0.0-100</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>3</td>
<td>7.6</td>
<td>0.0-33.3</td>
</tr>
</tbody>
</table>

Note: nEl = non-English-like group, El = English-like group, NS = Spanish Native Speakers.

According to Shapiro-Wilk’s test the assumption of normality only held for the English-like group, see Table 37. Boxplots showed that there were 5 outliers in the Spanish NSs group, participants 2, 7, 34 and 35 with 1 out of 6 ungrammatical answers and participant 19 with 2/6.

Table 37
Shapiro-Wilk’s normality test. English-DOD

<table>
<thead>
<tr>
<th>Group</th>
<th>F</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-English-like</td>
<td>.851</td>
<td>15</td>
<td>.018</td>
</tr>
<tr>
<td>English-like</td>
<td>.884</td>
<td>13</td>
<td>.080</td>
</tr>
<tr>
<td>NS</td>
<td>.439</td>
<td>34</td>
<td>.000</td>
</tr>
</tbody>
</table>

Note: Low = low proficiency, High = high proficiency, NS = Spanish native speakers. Significant results show a violation of normality.

4.4.3. Verb type English-DOD: only English verbs allow the DOD

The means, SDs and ranges per proficiency group can be seen in Table 38. Verbs in English-DOD allow the DOD in English but disallow it in Dutch. Figure 24 below displays a smaller preference for DOD with regard to the previous verb type. However, there was still a preference of approximately 15% for the DOD structure in the learner groups, which did not seem to differ as much from one another. As can be inferred from the SDs reported in Table 38 the CIs were of similar width in the learner groups, but much narrower for NSs, who consistently choose PD over DOD.

Table 38
Summary of the means, SDs and ranges in English-DOD

<table>
<thead>
<tr>
<th>Answer</th>
<th>Group</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>PD (grammatical)</td>
<td>nEl</td>
<td>86.4</td>
<td>23.8</td>
<td>16.7-100</td>
</tr>
<tr>
<td></td>
<td>El</td>
<td>82.3</td>
<td>20.8</td>
<td>40-100</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>96.1</td>
<td>17.4</td>
<td>0.0-100</td>
</tr>
<tr>
<td>DOD (ungrammatical)</td>
<td>nEl</td>
<td>13.6</td>
<td>23.8</td>
<td>0.0-83.3</td>
</tr>
<tr>
<td></td>
<td>El</td>
<td>17.7</td>
<td>20.8</td>
<td>0.0-60</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>1</td>
<td>4</td>
<td>0.0-16.7</td>
</tr>
</tbody>
</table>

Note: nEl = non-English-like group, El = English-like group, NS = Spanish Native Speakers.
Figure 24. Mean percentages of PD and DOD choices divided by English-like groups in English-DOD.

The assumption of normality, according to Shapiro-Wilk’s test, did not hold for any of the groups, see Table 39. Boxplots showed two outliers in the Spanish NS group, participants 4 and 10, who chose the ungrammatical option 1 out of 6 times.

Tabl 39
Shapiro-Wilk’s normality test. English-DOD

<table>
<thead>
<tr>
<th>Group</th>
<th>F</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-English-like</td>
<td>.642</td>
<td>15</td>
<td>.000</td>
</tr>
<tr>
<td>English-like</td>
<td>.826</td>
<td>13</td>
<td>.014</td>
</tr>
<tr>
<td>NS</td>
<td>.239</td>
<td>34</td>
<td>.000</td>
</tr>
</tbody>
</table>

Note: Low = low proficiency, High = high proficiency, NS = Spanish native speakers. Significant results show a violation of normality.

4.4.4. Verb type Dutch-DOD: only Dutch verbs allow the DOD

The means, SDs and ranges per English performance can be seen in Table 40. Figure 25 visualizes a new increase in learners’ preferences for the DOD structure, which is now of 20-30%. The observed pattern was the same across groups; however, the preference for the DOD is non-existing in NSs, but the preference decreases progressively in the learner groups. The CIs are wider in the learner groups than in the NSs, as can be seen in Figure 25 and inferred from the differences between SDs reported in Table 40 below.

Table 40
Summary of the means, SDs and ranges in Dutch-DOD

<table>
<thead>
<tr>
<th>Answer</th>
<th>Group</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>PD (grammatical)</td>
<td>nEl</td>
<td>68.2</td>
<td>34.3</td>
<td>.0-100</td>
</tr>
<tr>
<td></td>
<td>El</td>
<td>78.2</td>
<td>23</td>
<td>33.3-100</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>95.5</td>
<td>11.9</td>
<td>40-100</td>
</tr>
<tr>
<td>DOD (ungrammatical)</td>
<td>nEl</td>
<td>31.8</td>
<td>34.3</td>
<td>.0-100</td>
</tr>
<tr>
<td></td>
<td>El</td>
<td>21.8</td>
<td>23</td>
<td>.0-66.7</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>4.5</td>
<td>11.9</td>
<td>.0-60</td>
</tr>
</tbody>
</table>

Note: nEl = non-English-like group, El = English-like group, NS = Spanish Native Speakers.
Figure 25. Mean percentages of PD and DOD choices divided by English-like groups in Dutch-DOD.

According to Shapiro-Wilk’s test no data was normally distributed in Dutch-DOD, see Table 41. According to boxplots there were 6 extreme outliers in Dutch-DOD verbs that belonged to the Spanish NS group (participants 43, 29 and 6 chose 2 out of 5 times the ungrammatical option, participants 8 and 25 1/6 and 19 3/5).

Table 41

<table>
<thead>
<tr>
<th>Group</th>
<th>$F$</th>
<th>df</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-English-like</td>
<td>0.856</td>
<td>15</td>
<td>0.021</td>
</tr>
<tr>
<td>English-like</td>
<td>0.860</td>
<td>13</td>
<td>0.039</td>
</tr>
<tr>
<td>NS</td>
<td>0.239</td>
<td>34</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Note: Low = low proficiency, High = high proficiency, NS = Spanish native speakers. Significant results show a violation of normality.

4.4.5. Verb type No-DOD: English and Dutch verbs disallow the DOD

The means, SDs and ranges per acquisition of the English DA can be seen in Table 42. In No-DOD the DOD is disallowed in both, English and Dutch. Figure 26 shows again the same pattern as seen in the previous verb types. In this case, however, there was a steeper decrease in the preference of learners for the DOD option regarding the previous verb types. The figure shows that there was more variance in the non-English-like group than in the English-like group; yet the pattern was the same, which seemed to differ significantly from the Spanish NSs, who consistently disregarded DOD.
Table 42
Summary of the means, SDs and ranges in No-DOD

<table>
<thead>
<tr>
<th>Answer</th>
<th>Group</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>a (grammatical)</td>
<td>nEl</td>
<td>71.6</td>
<td>28.9</td>
<td>16.7-100</td>
</tr>
<tr>
<td></td>
<td>El</td>
<td>86.7</td>
<td>20.7</td>
<td>33.3-100</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>bboth (ungrammatical)</td>
<td>nEl</td>
<td>28.4</td>
<td>28.9</td>
<td>0.0-83.3</td>
</tr>
<tr>
<td></td>
<td>El</td>
<td>13.3</td>
<td>20.7</td>
<td>0.0-66.7</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Note: nEl = non-English-like group, El = English-like group, NS = Spanish Native Speakers.

Figure 26. Mean percentages of PD and DOD choices divided by English-like groups in No-DOD.

Again, the assumption of normality did not hold for any of the groups, see Table 43. No extreme outliers were spotted in any of the groups.

Table 43
Shapiro-Wilk’s normality test. English-DOD

<table>
<thead>
<tr>
<th>Group</th>
<th>F</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-English-like</td>
<td>.858</td>
<td>15</td>
<td>.023</td>
</tr>
<tr>
<td>English-like</td>
<td>.709</td>
<td>13</td>
<td>.001</td>
</tr>
<tr>
<td>Spanish native speakers</td>
<td>.436</td>
<td>34</td>
<td>.000</td>
</tr>
</tbody>
</table>

Note: Low = low proficiency, High = high proficiency, NS = Spanish native speakers. Significant results show a violation of normality.
4.4.6. Analyses on verb types with regard to English-like performance of participants

A mixed ANOVA was run on the performance in the Spanish test battery. Performance in Spanish was the dependent variable; DOD was analyzed as it is the choice that entails transfer. The within-subject variable was verb type. The independent between-subjects variable was group (non-English-like, English-like, and Spanish NSs).

Mauchly’s Test of Sphericity indicated that the assumption of sphericity had been violated, $\chi^2(5)=19.096$, $p = .002$, and, therefore, the Greenhouse-Geisser correction was used to check for significance. There was a significant effect of verb type, $F(2.532, 147.387)=12.755$, $p=.000$, $\eta^2_p=.178$. Significance was also found for group, $F(2, 59)=16.790$, $p=.000$, $\eta^2_p=.363$. And for the interaction between verb type and group at $F(5.064, 149.387)=4.870$, $p=.000$, $\eta^2_p=.142$. The strongest effect was found for group.

Post hoc tests using Bonferroni’s correction revealed significant differences between (non-)English-like groups and NSs. NSs differed from both learner groups, but the (non-)English-like groups did not differ from one another (see Table 44).

Table 44

<table>
<thead>
<tr>
<th>Results of Bonferroni’s post hoc test regarding English-like groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>Non-English-like</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>English-like</td>
</tr>
</tbody>
</table>

Note: NS = Spanish native speakers. > stands for more preference for the DOD than.

Bonferroni’s correction was again used to check post hoc the significant differences between verb types, see Table 45. Both-DOD differed significantly from all verb types but Dutch-DOD and the only remaining significant difference was between English-DOD and Dutch-DOD verbs.

Table 45

<table>
<thead>
<tr>
<th>Results of Bonferroni’s post hoc test regarding verb type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verb type</td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td>Both-DOD</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>English-DOD</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Dutch-DOD</td>
</tr>
</tbody>
</table>

Note: Both-DOD = DOD allowed in English and Dutch, English-DOD = DOD disallowed in Dutch, Dutch-DOD = DOD allowed in Dutch, No-DOD = DOD disallowed in English and Dutch. > stands for more preference for the DOD than.

Since significance was also found in the interaction between verb type and group, Bonferroni’s correction was again used to explore it, see Table 46. Firstly, the interaction between groups was observed within each verb type. In Both-DOD learner groups did not differ in their performance; however, both differed from Spanish NSs. Both learner groups showed more preference for the DOD, the lower the proficiency the more the preference. In English-DOD the verbs’ pattern was the same. In Dutch-DOD verbs non-English-like participants and Spanish NSs differed significantly, but the remaining combinations did not.
The same pattern arose in No-DOD verbs. The same directionality of effects as for Dutch-DOD verbs held. In conclusion, when differences were found these were mainly regarding Spanish NSs, but the two groups of learners never showed significant differences from one another.

Lastly, differences between verb types within each proficiency group were analyzed, but this time taking English group as referent and analyzing whether verb types differed significantly within each group, see Table 47. The preferences of the non-English-like group regarding English-DOD differed from all other verb types, with participants choosing less DODs in English-DOD than in Both-DOD and Dutch-DOD verbs but choosing more DODs than in No-DOD. In the English-like group the verb types that differed significantly from the rest were Both-DOD verbs, displaying the largest preference for the DOD. Lastly, in the Spanish NSs no significant differences were found.

Table 46
Results of Bonferroni's post hoc test regarding English-like groups*verb type

<table>
<thead>
<tr>
<th>Verb type</th>
<th>Proficiency group</th>
<th>Mean difference</th>
<th>p</th>
<th>Direction of the effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Both-DOD</td>
<td>Non-English-like</td>
<td>-4.8</td>
<td>1.00</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>31.5</td>
<td>.000</td>
<td>Non-English-like&gt;NS</td>
</tr>
<tr>
<td></td>
<td>English-like</td>
<td>36.3</td>
<td>.000</td>
<td>English-like&gt;NS</td>
</tr>
<tr>
<td>English-DOD</td>
<td>Non-English-like</td>
<td>-4.1</td>
<td>1.00</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>12.6</td>
<td>.030</td>
<td>Non-English-like&gt;NS</td>
</tr>
<tr>
<td></td>
<td>English-like</td>
<td>16.7</td>
<td>.004</td>
<td>English-like&gt;NS</td>
</tr>
<tr>
<td>Dutch-DOD</td>
<td>Non-English-like</td>
<td>10.0</td>
<td>1.00</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>27.3</td>
<td>.000</td>
<td>Non-English-like&gt;NS</td>
</tr>
<tr>
<td></td>
<td>English-like</td>
<td>16.7</td>
<td>.051</td>
<td></td>
</tr>
<tr>
<td>No-DOD</td>
<td>Non-English-like</td>
<td>15.1</td>
<td>.065</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>28.4</td>
<td>.000</td>
<td>Non-English-like&gt;NS</td>
</tr>
<tr>
<td></td>
<td>English-like</td>
<td>13.3</td>
<td>.056</td>
<td></td>
</tr>
</tbody>
</table>

Note: Both-DOD = DOD allowed in English and Dutch, English-DOD = DOD disallowed in Dutch, Dutch-DOD = DOD allowed in Dutch, No-DOD = DOD disallowed in English and Dutch. NS = Spanish native speakers. > stands for more preference for the DOD than.

Table 47
Results of Bonferroni's post hoc test regarding the interaction English-like groups*verb type

<table>
<thead>
<tr>
<th>Proficiency group</th>
<th>Verb type</th>
<th>Mean difference</th>
<th>p</th>
<th>Direction of the effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-English-like</td>
<td>Both-DOD</td>
<td>20.9</td>
<td>.001</td>
<td>Both-DOD&gt;English-DOD</td>
</tr>
<tr>
<td></td>
<td>Dutch-DOD</td>
<td>2.7</td>
<td>1.00</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>No-DOD</td>
<td>6.0</td>
<td>1.00</td>
<td>-</td>
</tr>
<tr>
<td>English-DOD</td>
<td>Dutch-DOD</td>
<td>-18.2</td>
<td>.001</td>
<td>Dutch-DOD&gt;English-DOD</td>
</tr>
<tr>
<td></td>
<td>No-DOD</td>
<td>-14.9</td>
<td>.001</td>
<td>English-DOD&gt;No-DOD</td>
</tr>
<tr>
<td>Dutch-DOD</td>
<td>No-DOD</td>
<td>-3.3</td>
<td>1.00</td>
<td>-</td>
</tr>
<tr>
<td>English-like</td>
<td>Both-DOD</td>
<td>21.5</td>
<td>.001</td>
<td>Both-DOD&gt;English-DOD</td>
</tr>
<tr>
<td></td>
<td>Dutch-DOD</td>
<td>17.4</td>
<td>.012</td>
<td>Both-DOD&gt;Dutch-DOD</td>
</tr>
<tr>
<td></td>
<td>No-DOD</td>
<td>25.9</td>
<td>.001</td>
<td>Both-DOD&gt;No-DOD</td>
</tr>
<tr>
<td></td>
<td>English-DOD</td>
<td>Dutch-DOD</td>
<td>No-DOD</td>
<td>Dutch-DOD</td>
</tr>
<tr>
<td>---------------</td>
<td>-------------</td>
<td>-----------</td>
<td>--------</td>
<td>-----------</td>
</tr>
<tr>
<td></td>
<td>-4.1</td>
<td>1.000</td>
<td>-</td>
<td>4.4</td>
</tr>
<tr>
<td>NS Both-DOD</td>
<td>2.0</td>
<td>1.000</td>
<td>-</td>
<td>-1.6</td>
</tr>
<tr>
<td></td>
<td>-3.5</td>
<td>1.000</td>
<td>-</td>
<td>1.0</td>
</tr>
</tbody>
</table>

*Note: Both-DOD = DOD allowed in English and Dutch, English-DOD = DOD disallowed in Dutch, Dutch-DOD = DOD allowed in Dutch, No-DOD = DOD disallowed in English and Dutch NS = Spanish native speakers. > stands for more preference for the DOD than.*
Chapter 5. Discussion

The current study examined the performance of 28 Dutch speakers on a GJT task with regard to the acceptance of the Double Object Dative in Spanish as well as in English. The goal was first to attest the preferences regarding order of complements and to observe the presence of wholesale transfer following from Perpiñán and Montrul (2006). Next, take a closer look at verbs with different restrictions regarding the DOD in English and Dutch in order to assess transfer of the fine-grained characteristics of the DA stemming from Dutch or English.

Results are discussed from the perspective that they are trustworthy, however, it must be born in mind that the assumptions of normality and homogeneity did not hold in general; thus, that might have affected the analyses.

Predictions were that there would be transfer and that learner groups would choose the DOD more than NSs. If transfer were wholesale, no differences would be present between verb types, but, if fine grained transfer were present, learners would behave differently depending on verb type. If transfer came from the L1, learners would choose the DOD more often in Both-DOD and Dutch-DOD verbs than in English-DOD and No-DOD verbs. If it came from the L2 the DOD would be chosen more in Both-DOD and English-DOD verbs than in Dutch-DOD and No-DOD verbs. If it came simultaneously from both, the largest preference for DOD would be found in Both-DOD, then Dutch-DOD, then English-DOD and No-DOD. See Table 48 for a summary.

Table 48
Predictions with regard to type and source of transfer

<table>
<thead>
<tr>
<th>Source of transfer</th>
<th>Fine-grained</th>
<th>Type of transfer</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>Both-DOD = Dutch-DOD ≠ English-DOD = No-DOD</td>
<td>Both-DOD = English-DOD = Dutch-DOD = No-DOD</td>
</tr>
<tr>
<td>L2</td>
<td>Both-DOD = English-DOD ≠ Dutch-DOD = No-DOD</td>
<td>Both-DOD = English-DOD = Dutch-DOD = No-DOD</td>
</tr>
<tr>
<td>Both</td>
<td>Both-DOD ≠ English-DOD = Dutch-DOD ≤ No-DOD</td>
<td>Both-DOD = English-DOD = Dutch-DOD = No-DOD</td>
</tr>
</tbody>
</table>

Note: Green = DOD is allowed, red = DOD is disallowed. ≠ means no significant difference is to be found across verb types, ≤ a significant difference is to be found, ≤ equal or higher acceptance of the DOD

5.1. Wholesale transfer: object position and acceptance of the Double Object Dative

Low proficiency learners, high proficiency learners, and Spanish NSs had a similar pattern of choices concerning the order of the complements. This was observed by means of a one way ANOVA performed on each variable (DO-IO, IO-DO, and both). There were no significant differences in their preferences for the direct object followed by the indirect object nor were there any for their choice of both. However, there were significant differences in the proficiency groups’ preferences with regard to sentences with the indirect object preceding the direct object. Seemingly, high proficiency learners differed significantly from Spanish native speakers in so that Spanish native speakers chose the sentences with the indirect object first more often than the learners. However, overall these results indicate that all participants have a preference for the canonical order (DO-IO).

Regarding order, the only significant difference found was between Spanish NSs and high proficiency learners in the IO-DO order, with NSs going more for this marked order. This
finding is probably due to the fact that learners are repeatedly told that the DO-IO is canonical in Spanish, which probably influenced them to prioritize this option; whereas Spanish native speakers are likely to owe this preference to the influence of pragmatics, since their preferences are based on intuition and probably more sensitive to external factors than learners with conscious grammatical knowledge.

These results are not in line with Perpiñán and Montrul’s (2006) study. Their results showed that their advanced learners behaved similarly to Spanish native speakers while both groups differed from the intermediate group. Perpiñán and Montrul (2006) also found significant differences in the variables DO-IO and both. In addition, the overall picture of their results points towards a bigger preference for option both over the other two options in the advanced and native groups, which we did not find. Our participants’ preferences were undoubtly biased towards DO-IO instead of both. There might be several possibilities for this difference. Firstly, methodological differences might have been the cause. They provided the contexts in English, while we did so in Spanish. Reading the context in English and then having to choose between two Spanish sentences might have caused Perpiñán and Montrul’s (2006) participants to be more accepting of the option both as a result of English being more active. In English the IO precedes the DO more often than in Spanish, thus, participants might have transferred the idea of both orders being equally acceptable, whilst our participants would not have had English as active, hence, preferring the canonical Spanish order over the other possible choices. Secondly, the contexts provided in the present study might have inadvertently driven attention to DO-IO instead of providing a neutral environment with equal competition between both choices; nevertheless, after a revision of the stimuli, nothing that could prompt such bias was spotted and no item towards one choice over the other. Hence, the results are likely proof of participants resorting to the canonical order in Spanish. Lastly, the question we asked was an adapted translation, so participants might have interpreted it differently than that of Perpiñán and Montrul (2006). This study asked ‘Which sentence is more appropriate in the context?’ whilst they asked ‘Which one feels right in this context?’. Perhaps enquiring after appropriateness caused them to dwell more in the context and give an exclusive answer, either DO-IO or IO-DO.

Regarding wholesale transfer of the DOD it is concluded that participants accepted the DOD construction in Spanish despite it being ungrammatical; thus, showing transfer from either their L1 Dutch or L2 English. As the following discussion shows, this conclusion is in line with previous literature. In comparison to Perpiñán and Montrul’s (2006) study the present results differ from theirs in so that theirs showed native speakers and advanced learners behaving together and differing significantly from the intermediate learners, while in this study the only difference that holds for all variables is that low proficiency speakers differ from native speakers. The results show high proficiency speakers somewhere in between, not differing from any group, differences only arose in the DOD variable, where they did behave like native speakers but significantly different from low proficiency learners. Despite the differences regarding the PD and both choices, the significant differences found in DOD mirror those found by Perpiñán and Montrul (2006). Since the DOD option is the one attesting transfer and our results do coincide on that regard with previous literature, it can be concluded that the present study’s results are in line with previous findings. This shows that the groups behaved significantly different in each variable depending on the proficiency, but always showing more transfer at lower proficiency levels: low proficiency > high proficiency.

In conclusion, results with regard to wholesale transfer showed that low proficiency learners behaved like Perpiñán and Montrul’s (2006) intermediate learners, who
overwhelmingly preferred PD, followed by DOD and then both. High proficiency learners showed more transfer than the advanced learners in Perpiñán and Montrul (2006) and they clearly did so in option both and not as much in DOD, which is a tendency that is absent in their study. With regard to our native control we did find the same preferences as Perpiñán and Montrul (2006) found.

The differences between this study and Perpiñán and Montrul’s (2006) might be due to the origin of their sample (sampled from university classrooms) and the differences regarding the stimuli. In transfer of the DOD there is a clear cut grammatical/ungrammatical distinction, where native speakers in the present study did not differ from those of Perpiñán and Montrul (2006) and were able to distinguish grammatical sentences, thus verifying the reliability of our control group. The similarities Perpiñán and Montrul (2006) found between their advanced learners and native speakers were probably due to the fact that their advanced learners might have had a higher and more homogenous proficiency than ours, since they were taken from Spanish courses at university in which there was not as much variance in proficiency. In addition, our experimental group was also different, since we looked into Dutch speakers who also had knowledge of English with L3 Spanish, while they employed English speakers with Spanish as an L2. Nevertheless, it can be concluded that wholesale transfer was present in both studies.

Despite finding tendencies different than those in Perpiñán and Montrul (2006), the present data coincided with theirs and that of White (1987, 1991) in so that it attested the presence of wholesale transfer, which was less present the higher the proficiency was. Having concluded that there is wholesale transfer enables the discussion to continue further and observe whether said transfer depends on the verbs’ lexical restrictions in the L1 and/or L2.

5.2. Fine-grained transfer

Table 49
Summary of the observed patterns across verb types

<table>
<thead>
<tr>
<th>Grouping</th>
<th>Effect on transfer</th>
<th>Group</th>
<th>Amount of transfer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spanish proficiency</td>
<td>Quantity Low</td>
<td>DOD allowed in Eng and Nd &gt; DOD allowed in Nd &gt; DOD disallowed in Eng and ND &gt; DOD allowed in Eng</td>
<td></td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>DOD allowed in Eng and Nd &gt; DOD allowed in Nd &gt; DOD disallowed in Eng and ND ≥ DOD allowed in Eng</td>
<td></td>
</tr>
<tr>
<td></td>
<td>English-like</td>
<td>DOD allowed in Eng and Nd &gt; DOD allowed in Nd &gt; DOD disallowed in Eng &gt; DOD disallowed in Eng and Nd</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Quality Non-English-like</td>
<td>DOD allowed in Eng and Nd &gt; DOD allowed in Nd &gt; DOD disallowed in Eng and ND &gt; DOD allowed in Eng</td>
<td></td>
</tr>
</tbody>
</table>

Note: Nd = Dutch, Eng = English, > more transfer than, ≥ almost same amount of transfer.
Regarding fine-grained transfer two different approaches were taken. Firstly, results were analyzed with participants divided according to Spanish level of proficiency. Secondly, participants were divided with regard to their acquisition of the English restrictions on the DA. In sum, in both cases the results pointed towards transfer coming from Dutch in all groups with the exception of the English-like group, who patterned according to the predictions if transfer came from both languages simultaneously (see Table 49).

5.2.1. Fine-grained transfer with regard to proficiency level

After finding supporting evidence that transfer happened across the board (wholesale), this study observed whether specific restrictions from a language were transferred from Dutch and/or English into Spanish (fine-grained transfer). This question was explored by means of a mixed ANOVA that showed significant differences across the manipulated verb types, groups, and the interaction between group and verb type.

Results were in line with the predictions for transfer coming from L1 Dutch. Learners tended to transfer more in verb types Both-DOD and Dutch-DOD than in English-DOD and No-DOD. These tendencies show that the most transfer appeared in those verb types in which Dutch, the L1 of the participants, allowsthe DOD, while it did not happen as much in verb types in which Dutch disallows it. This picture suggests that there was indeed transfer from the L1 Dutch. However, Dutch-DOD and No-DOD verbs did not differ significantly. This non-significant interaction was not expected, since it was expected that participants would behave similarly in English-DOD and No-DOD and that they would differ significantly as a group from Both-DOD and Dutch-DOD. No-DOD disallows the DOD both in English and Dutch; hence, no transfer was predicted in this verb type, as there was presumably nothing to be transferred. The reason we find this unexpected result might be due to different reasons. Firstly, there was another translation equivalent competing with the verb we had accounted for that does indeed have the DOD alternate. Secondly, Bley-Vroman and Yoshinaga (1992) found that in nonce verbs participants overgeneralized the acceptance of the DOD, so, perhaps our participants did not understand verbs in No-DOD and tended to overgeneralize the acceptance of the DOD as Bley-Vroman and Yoshinaga's (1992) participants did. Lastly, the unexpected results might be due to the reduced sample size or the violations of normality and homogeneity we mentioned before.

Still, the observed pattern points to transfer coming from Dutch, especially with regard to the high proficiency group. The sensitivity our participants showed to verb type seems to be in line with Whong-Barr and Schwartz's (2002) results, which showed Korean children transfer the constraints of the Korean DOD into English, successfully disallowing illicit English for-datives because they had already acquired the restrictions for the for-dative in Korean. Whong-Barr and Schwartz's (2002) successfully showed transfer of an L1 rule into the L2, but the focus of the present study was not grammatical rules but lexical transfer. Thus, based on both studies, there seems to be evidence for transfer of rule-based constraints and lexical (fine-grained) constraint, which leaves us wondering whether lexical from rule-based transfer can be teased apart, meaning that probably both types of transfer cannot be separated. Unfortunately, Whong-Barr and Schwartz (2002) do not help us shed light on the unexpectedly high rates of acceptance of the DOD in No-DOD verbs.

Fine-grained transfer coming from Dutch is the clearest in the high proficiency group. This result seems in line with the Feature Reassembly Hypothesis (Lardiere, 2008, 2009). Because there appears to be wholesale transfer at an initial stage and then, throughout the developmental path, lexical specifications of the feature become traceable to the L1 and L2. These slowly align to the learnt language's restrictions, but also the pattern of transfer becomes clearer, as a deeper knowledge of the language is in place the traces of transfer that
5.2.2. Fine-grained transfer in preferences regarding the DOD in groups divided according to English-like acquisition of the DOD

Here the goal was to address the last research question: do the same patterns of transfer hold for different levels of attainment across learners at different developmental stages in terms of their acquisition of the English DA restrictions? In the Results section it was proved that the English-like participants did not differ significantly from the English native speakers in their preferences with regard to English-DOD verbs. Hence, it was a valid choice to carry on with the last hypothesis' analysis. Again, a mixed ANOVA was used.

The tendencies found in English-like participants were in line with the predictions for transfer coming from both languages. This group division visualized new transfer patterns, thus, it provided qualitative information regarding transfer, whilst the group division with regard to level of Spanish proficiency was more informative with regard to amount of transfer, hence, quantity of transfer. In sum, the division according to English-like performance evinced a modulated pattern of transfer.

When looking at the significant interactions between verb types within each group of participants, interactions are not as revealing as they were regarding the previous question. The only clear conclusion that can be drawn is that for the non-English-like group preferences for English-DOD verbs differ significantly from the rest of verb types because it shows the least transfer; whilst Both-DOD differs from all the other verb types in the English-like group by showing the most transfer.

In the non-English-like group there was more transfer in No-DOD than in English-DOD verbs, which was not predicted. It might be the case that participants did not understand the target verbs in Spanish and consequently behaved at chance or overgeneralized illicit DODs in line with Bley-Vroman and Yoshinaga (1992) as mentioned in the previous section. As for Both-DOD we believe that its higher rates of transfer are the result of the double validation of the DOD by both, English and Dutch, namely that the preference for this option is reinforced by both languages enabling the DOD for the verbs. As seen, there was wholesale transfer and even in No-DOD verbs there was some preference for the DOD. This evidence points towards a first stage of wholesale transfer of the DA that is later modulated by the L1/2 preferences. The most evidence is found when the languages involved allow the DOD. It seems, then, that the positive evidence gathered by participants from Dutch and English that the DOD is correct in these verbs has strengthened transfer, while the double disallowance in No-DOD has weakened transfer effects.

The conclusion is that results point towards transfer happening simultaneously from Dutch and English, with Dutch having a greater impact. This conclusion is based on the results with regard to the English-like group, in which the verb types ordered from more to less transfer show the most transfer in Both-DOD > Dutch-DOD > English-DOD > No-DOD. The claim cannot be extended to the non-English-like group, however, this group did not
acquire the English restrictions on the DA, and so it was not of importance for the present discussion.

The new group division allowed us to observe clearer patterns, although the essential did not change: fine-grained transfer was present. In the new approach to the results we then find results similar to those of Whong-Barr and Schwartz (2002) since now the results are reflect simultaneous transfer from the L1 and L2. However, we are looking into L3 and not L2, so in addition to the fine-grained transfer coming mainly from the L1 as our previous results showed; we may now add that English seems indeed to play a modulating role in line with Slabakova’s (2012) Modulated Transfer Hypothesis.

In light of L3 type of transfer literature we conclude that the L2 plays an active role in transfer along with the L1 in this language combination. The effects attested in this study might be due to both, L1 and L2, being Germanic languages, thus, typologically related.

With regard to the studies discussed, Foote’s (2009) data are the most helpful when looking at the current results. Even when non-significant, their study evinced differences between L1 English/L2 Romance/L3 Brazilian and L1 Romance/L2 English/L3 Brazilian speakers. L2 Romance speakers showed the most transfer into L3 Brazilian. She argued that the better performance of the first group was due to the conscious knowledge of the grammatical rules that were targeted by her study. We agree with the interpretation she provides, but our data paints a different picture, and that is that the L2 plays an active role in transfer not only regarding grammatical awareness. Her study might have biased participants towards a source of transfer due to psycholinguistic similarity (in line with Rothman’s TPM, 2010, 2011) of one of the languages with the L3. This was not our case. A look at our data in contrast to theirs suggests that the transfer found from the L1 and the L2 might only take place when they both belong to the same typological family and share the target feature, i.e. the DA. In addition, in order to find similar results, the L3 might need to be of a different typological family or at least lack the observed feature. In order to explore whether that is actually the case, a similar study should be carried by means, for instance, of a crossed design with German and English as L1/L2 and another Romance language as L3.

As this discussion so far has built up to, it is our conclusion that when looking into the data split according to (non-)English-like performance a clearer pattern that reflected simultaneous transfer from the L1 and L2 up to different extents emerged. However, Spanish proficiency better accounted for how much transfer is taking place: the lower the proficiency in Spanish the more transfer there was.

5.3. Unsolved issues and shortcomings

Inasmuch as we have tried to explain the odd results with regard to No-DOD the best explanation is that English is mediating transfer effects. This hypothesis is backed by Figure 1 in Appendix G. This figure shows that participants who often chose DOD/both in the No-DOD verb type are in general less proficient in Spanish and have not yet acquired the constraints regarding the English DA. In addition, despite of No-DOD verbs not being as problematic at higher levels of Spanish proficiency, the pattern is not as clear as it is for English-like participants.

The main shortcoming of this research was the small sample. This was an issue we were not able to solve, since the timeframe and resources available did not allow for more. Along the same lines there is the fact that we had relatively few items in order to assess fine-grained transfer. Even though this might have been a hindrance, the time demands of the experiment already caused some dropouts, so having an even longer test battery would have been counterproductive when trying to gather participants.
Time constraints and personal limitations did not allow us to test Dutch speakers in their native language. Administering them a Dutch version of the test would have showed us whether the results with regard to verbs disregarding the DOD in Dutch and English were due to a misclassification of verbs, meaning that verbs disregarding the DOD in Dutch and English actually allowed the DOD in Dutch against our literature based classification.

The overall picture strengthens the hypothesis that the unexpected results concerning No-DOD verbs might be that verbs were too complicated and were not translated from Spanish into the expected verbs. That does not however explain why participants at lower proficiency of Spanish but with English-like performance behaved according to the expectations with regard to simultaneous transfer. Regardless of the current speculations, it seems as though English was playing an unexpected role that at the moment we are unable to explain. What can be asserted by looking at Figure 1 in Appendix G is that the pattern was consistent across proficiency groups when English-like performance was present.

Our data misses an important control group for which we did not manage to find population: L1 English/L2 Dutch/L3 Spanish. The existence of this group would have enabled us to see if the pattern observed reversed and whether transfer would then stem from English. In this manner, a contribution to the debate around source of transfer would have been possible. Yet another limitation was the unavailability of L1 Dutch/L2 Spanish adult speakers without any knowledge of English. The inexistence of such population keeps us from asserting that the found pattern was due to English influence and not part of the usual development of Dutch speakers learning Spanish as a foreign language. Nevertheless, given that most of the Dutch population has learnt English, our study has ecological validity despite this limitation. The unavailability of this group is a reflection of the oddity of finding L1 speakers who do not speak at least one L2. Thus, these facts strengthen the need for a deeper understanding of L3A. Since the aforementioned comparison was not available and such sample would have been beyond our resources, no L1 English/L2 Spanish control group was used either. These, however, were limitations that surpassed the scope of this work. Future research might be more likely to perform studies with the pertinent groups if using other language pairs, i.e. substituting Dutch for German. It is our belief that the present study managed to provide another perspective by means of the proposed verb types that could have been overlooked in more complex designs such as the proposed above.

There were also some issues regarding our items. Spanish native speakers chose neither more often than we had anticipated (140 times out of 1,632). Since no pattern or explanation was found we decided to consult with some native speakers who did not take part in the survey as well as some participants. As mentioned in the Method section the clitic le was left out in the Spanish sentences, which should have not affected the acceptability of the target sentences according to the grammar and a consultation made to a Spanish Philologist. Nevertheless, according to the judgment of the enquired native speaker the sentences would have sounded much more natural had the clitic been present. Two participants were also asked after their choices. Overall, their comment was that most of their neithers were due to the contrast between indefinite and definite article. For instance, in (13) native speakers argued that it would have sounded more natural with the indefinite article un than the definite el, since in the context book was preceded by the indefinite un. In the Method it was explained that the definite article had been used in the sentences to keep everything as comparable as possible. When doing so we tried our best to make the sentences sound natural within the frame of each context. The effort seems to have been proven insufficient in that regard. The other rationale participants provided for their choices was that the whole context and sentences were pragmatically odd and thus no option seemed valid to them. Nevertheless, the English test battery was a translation of the
Spanish items and the English control group did not seem to be sensitive to the odd pragmatics reported by Spanish native speakers.

(13) A una amiga le encanta leer y pronto será su cumpleaños. Mi hermano y yo le regalaremos un libro, así que...
...por la tarde buscaremos el libro para la amiga.

‘A friend of ours loves reading and it will soon be her birthday. My brother and I will give her a book, so...
...this afternoon we will get the book for the friend.’

In conclusion, the issues that were pointed out to us might have well been the cause of the many neither choices. After a review of the sentences no signs of any of the explanations being more explanatory than the others was noticeable when accounting for the amount of neither reported for each item; hence, all three opinions —presence or absence of the clitic, contrast between definite and indefinite articles, and pragmatics— seem to be valid explanations that the Spanish native speakers applied unconsciously and in line with personal criteria.
Chapter 6. Conclusion

The first part of the research successfully attested wholesale transfer of the DA from Dutch/English into Spanish, in line with previous literature such as Perpiñán and Montrul (2006) and White (1987, 1991). Since transfer was found we moved forward and analyzed whether there was fine-grained transfer stemming from Dutch or English. If transfer came from Dutch a larger preference for the DOD in the verb types that allowed the DOD in Dutch was expected. This expectation was met. However, less preference for the DOD was expected in verbs in which Dutch disallowed the DOD. This expectation was not met. The least preference for the DOD was predicted for verbs that disallowed the DOD in both, English and Dutch, but the least preference for the DOD was present in verbs disallowing the DOD only in English. This was specially the case for low proficiency learners, whereas high proficiency learners seemed to prefer the DOD to a similar extent in verbs disallowing the DOD in Dutch. This picture suggests that, indeed, restrictions from Dutch are being transferred, especially in the high proficiency group, although other factors seem to be intervening in the low proficiency group. Nevertheless, Spanish proficiency seemed a reliable predictor of amount of transfer.

As part of the design the Spanish data was analyzed after splitting participants between those having acquired the restrictions of the DA in English and those who had not. In doing so, it was observed that, among participants who had acquired the restrictions of the DOD in English, the most transfer was present in the preferences regarding verbs which allow the DOD in both languages, followed by verbs allowing it in Dutch, then verbs allowing it in English and disregarding it in both languages. This was in line with the predictions if transfer happened simultaneously from Dutch and English. This pattern was, however, only present in the behavior of the English-like group. It seems, then, that Dutch is being transferred in the first place and English adds up to it by modulating the effects of transfer when learners have the L2 feature in place.

Looking at the raw data, yet another pattern arose. There seemed to be a relationship between low proficiency in Spanish and non-English-like performance. Participants showing the most transfer in verbs disregarding the DOD in both languages gathered both requisites. Considering the reduced size of the group, this might have been due to chance or attributable to an overgeneralization resulting from the overall low competence in both languages.

With regard to L3A theories the data seems in line with the Linguistic Proximity Model by Westergaard et al. (2016), which conceives transfer in a property-by-property basis. The authors do not mention that within a property specific characteristics can come from both languages, but it seems a viable possibility when looking at the present results. Within the L2 type of transfer frame, Lardiere’s (2008, 2009) Feature Reassembly Hypothesis seems to best accommodate the present results since it argues for a reassembly of the feature (the DA in this study) in order to accommodate the new language’s restrictions. Regarding L3A type of transfer Slabakova’s Modulated Transfer Hypothesis seems to be the best fit. The English-like group has, in fact, successfully acquired the DOD restrictions in English and that affects the learning of Spanish, in which the restrictions of Dutch and English coexist in the form of transfer and are adapting to the new restrictions of Spanish while gradually vanishing as proficiency increases.

In summary, the current results visualize that a feature such as the DA cannot be taken as a general feature that transfers in a wholesale fashion, the specific restrictions of the feature in the languages involved need to be taken into account, since there is fine-grained transfer. Not doing so, could yield false conclusions; for instance, a poor choice of verbs in an experiment might have resulted in an underestimation or overestimation of the amount of
transfer if only wholesale transfer is under observation. It seems in place to join Slabakova (2012: 137) in her claim that current L3A theories are «too big-brush» to shed light onto these nuanced findings, hence more studies along these lines are needed.

6.1. Future research

Future research should address the questions left unanswered. More complex designs could shed some light on the matter. As suggested in our Discussion a design similar to ours in which German substitutes Dutch and includes a crossed design with different orders of acquisition of the L1 and L2 could yield clearer results; i.e. with a group, such as L1 German/L2 English/L3 Spanish, a group L1 English/L2 German/L3 Spanish, native controls as well as L1 German/L2 Spanish and L1 English/L2 Spanish in order to explore whether the found patterns correspond to specific L3 development path or are the natural developmental path of L1 speakers of the respective languages.

Overall, future research in L3A should start accounting for other factors such as type of transfer in order to acquire a deeper understanding of the phenomena that take place in L3A. It is our belief that by drawing attention to aspects other than source of transfer a more complete picture will arise and that it will also shed some light on the source of transfer debate.
Chapter 7. Literature


## Appendix A: Dutch participants’ linguistic background

Table 1

*Language background data from our Dutch native speakers’ participants.*

<table>
<thead>
<tr>
<th>ID</th>
<th>Age</th>
<th>Sex</th>
<th>Level of education</th>
<th>AoA</th>
<th>Type of learning</th>
<th>Proficiency</th>
<th>AoA</th>
<th>Type of learning</th>
<th>Proficiency</th>
<th>Stays abroad</th>
<th>Other languages</th>
<th>Exposure to other languages</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>23</td>
<td>F</td>
<td>ReMA Student</td>
<td>9</td>
<td>Primary school</td>
<td>76.25 %</td>
<td>17</td>
<td>University</td>
<td>30 %</td>
<td>Spain, 6 months, study</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>24</td>
<td>M</td>
<td>BA student</td>
<td>8</td>
<td>TV, music and games</td>
<td>92.5 %</td>
<td>22</td>
<td>University</td>
<td>0 %</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>8</td>
<td>30</td>
<td>M</td>
<td>Completed MBO</td>
<td>10</td>
<td>Television</td>
<td>97.5 %</td>
<td>13</td>
<td>High school</td>
<td>1.7 %</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>10</td>
<td>26</td>
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<td>MA student</td>
<td>10</td>
<td>Primary school</td>
<td>90 %</td>
<td>21</td>
<td>Teaching by a Spanish Native speaker</td>
<td>-5 %</td>
<td>Spain, 3 weeks, Language course; Mexico, 6 months, study; USA, 3 months, internship</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>12</td>
<td>33</td>
<td>F</td>
<td>Completed</td>
<td>11</td>
<td>Middle</td>
<td>88.75 %</td>
<td>20</td>
<td>University</td>
<td>63.3 %</td>
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<td>-</td>
<td>-</td>
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<td>No.</td>
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<td>School Type</td>
<td>Year</td>
<td>Current Grade</td>
<td>School</td>
<td>Grade</td>
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<td>Language Level</td>
<td>Notes</td>
</tr>
<tr>
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<tr>
<td>13</td>
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<td>HBO</td>
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<td>14</td>
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<td>High school</td>
<td>13</td>
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<td>67.5 %</td>
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<td>-</td>
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<td>M</td>
<td>MA student</td>
<td>Primary school</td>
<td>10</td>
<td>77.5 %</td>
<td>Language course</td>
<td>23</td>
<td>0 %</td>
<td>Costa Rica, 3 weeks, Language course</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>31</td>
<td>24</td>
<td>F</td>
<td>MA student</td>
<td>Primary school</td>
<td>6</td>
<td>61.25 %</td>
<td>Language course</td>
<td>24</td>
<td>-10 %</td>
<td>Indonesia, 1 month, study; Hong Kong, 1 month, internship; Canada, 8 months, research</td>
<td>Frisian</td>
<td>40 %</td>
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<td>20</td>
<td>F</td>
<td>BA student</td>
<td>Primary school</td>
<td>10</td>
<td>88.75 %</td>
<td>Language course</td>
<td>19</td>
<td>-5 %</td>
<td>-</td>
<td>-</td>
<td>-</td>
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</table>


<table>
<thead>
<tr>
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<th>School</th>
<th>Year</th>
<th>University</th>
<th>Percentage</th>
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<th>Languages</th>
<th>Study</th>
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<td>F</td>
<td>Completed</td>
<td>HBS</td>
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<td>Volksuniversiteit</td>
<td>92.5%</td>
<td>67</td>
<td>5%</td>
<td>-</td>
<td>-</td>
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<tr>
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<td>F</td>
<td>MA student</td>
<td>Primary school</td>
<td>10</td>
<td>Language course in Spain</td>
<td>83.75%</td>
<td>18</td>
<td>58.33%</td>
<td>Spain, Language course; Argentina, 5 months, study</td>
<td>-</td>
</tr>
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<td>38</td>
<td>22</td>
<td>F</td>
<td>MA student</td>
<td>High school</td>
<td>10</td>
<td>University</td>
<td>68.75%</td>
<td>18</td>
<td>73.33%</td>
<td>Spain, 7 months, study</td>
<td>-</td>
</tr>
<tr>
<td>40</td>
<td>24</td>
<td>M</td>
<td>Completed</td>
<td>University</td>
<td>11</td>
<td>University</td>
<td>85%</td>
<td>16</td>
<td>35%</td>
<td>Spain, 6 months, study; Spain, 6 months, internship, Portugal, 2 months, Language course; Georgia, 2 months, internship</td>
<td>Portuguese B1-B2; Italian A2</td>
</tr>
<tr>
<td>44</td>
<td>19</td>
<td>F</td>
<td>BA student</td>
<td>Elementary school</td>
<td>10</td>
<td>University</td>
<td>77.5%</td>
<td>18</td>
<td>-5%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>45</td>
<td>21</td>
<td>F</td>
<td>BA student</td>
<td>University</td>
<td>8</td>
<td>University</td>
<td>57.5%</td>
<td>15</td>
<td>1.7%</td>
<td>Spain, 5 months,</td>
<td>-</td>
</tr>
<tr>
<td>#</td>
<td>Age</td>
<td>Gender</td>
<td>Education</td>
<td>Primary School</td>
<td>High School</td>
<td>University</td>
<td>Study Location</td>
<td>Study Duration</td>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>47</td>
<td>23</td>
<td>F</td>
<td>Completed MA</td>
<td>Elementary school</td>
<td>10</td>
<td>14</td>
<td>High school</td>
<td>82.5 %</td>
<td>36.7 % Spain, 6 months, study</td>
<td></td>
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</tr>
<tr>
<td>48</td>
<td>28</td>
<td>F</td>
<td>Completed BA</td>
<td>Music and TV</td>
<td>6</td>
<td>18</td>
<td>High school</td>
<td>92.5 %</td>
<td>58.3 % Chile, 11 months</td>
<td></td>
<td></td>
</tr>
<tr>
<td>49</td>
<td>21</td>
<td>F</td>
<td>BA student</td>
<td>Primary school</td>
<td>10</td>
<td>13</td>
<td>High school</td>
<td>56.25 %</td>
<td>11.7 % Spain, 5 months, study</td>
<td></td>
<td></td>
</tr>
<tr>
<td>51</td>
<td>21</td>
<td>F</td>
<td>BA student</td>
<td>Primary school</td>
<td>10</td>
<td>15</td>
<td>High school</td>
<td>65 %</td>
<td>6.7 % Spain, 5 months, study</td>
<td></td>
<td></td>
</tr>
<tr>
<td>52</td>
<td>22</td>
<td>F</td>
<td>BA student</td>
<td>High school</td>
<td>11</td>
<td>18</td>
<td>High school</td>
<td>60 %</td>
<td>0 % Spain, 5.5 months, study</td>
<td></td>
<td></td>
</tr>
<tr>
<td>53</td>
<td>22</td>
<td>M</td>
<td>BA student</td>
<td>Primary school</td>
<td>9</td>
<td>19</td>
<td>University</td>
<td>93.75 %</td>
<td>25 % Spain, 7 months, work and study</td>
<td></td>
<td></td>
</tr>
<tr>
<td>54</td>
<td>21</td>
<td>F</td>
<td>BA student</td>
<td>From mom</td>
<td>0</td>
<td>15</td>
<td>High school</td>
<td>60 %</td>
<td>30 % Spain, 5 months, study</td>
<td></td>
<td></td>
</tr>
<tr>
<td>55</td>
<td>20</td>
<td>F</td>
<td>BA student</td>
<td>Primary school</td>
<td>10</td>
<td>15</td>
<td>High school</td>
<td>67.5 %</td>
<td>28.3 % Spain, 5 months,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>56</td>
<td>20</td>
<td>F</td>
<td>BA student</td>
<td>6</td>
<td>At home</td>
<td>85 %</td>
<td>15</td>
<td>High school</td>
<td>30 %</td>
<td>Chile, 6 months, study</td>
<td></td>
</tr>
<tr>
<td>----</td>
<td>----</td>
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<td>------</td>
<td>----------------------</td>
<td></td>
</tr>
<tr>
<td>57</td>
<td>18</td>
<td>F</td>
<td>BA student</td>
<td>12</td>
<td>High school</td>
<td>96.25 %</td>
<td>18</td>
<td>University</td>
<td>28.3 %</td>
<td>Spain, 5 months, study</td>
<td></td>
</tr>
</tbody>
</table>

M = male, F = female, BA = Bachelor, MA = Master’s, ReMA = Research Master’s, AoA = age of acquisition.

*Note:* we did not report French and German at high school level as other languages because it was a constant trait across our Dutch participants. Proficiency scores are percentages according to the LEXTALE test. Proficiency scores between Spanish and English are not comparable, as the Spanish test gives negative scores, hence proficiency scores should only be looked at as a mean to compare participants to one another.
Appendix B: linguistic background of the Spanish native speakers control group

Table 2

Language background data from our Spanish native speakers’ participants.

<table>
<thead>
<tr>
<th>ID</th>
<th>Sex</th>
<th>Age</th>
<th>Spanish variety</th>
<th>Other languages</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>F</td>
<td>54</td>
<td>European</td>
<td>Catalan</td>
</tr>
<tr>
<td>2</td>
<td>M</td>
<td>52</td>
<td>European</td>
<td>Catalan</td>
</tr>
<tr>
<td>3</td>
<td>M</td>
<td>19</td>
<td>European</td>
<td>Catalan</td>
</tr>
<tr>
<td>4</td>
<td>F</td>
<td>24</td>
<td>European</td>
<td>Baskian</td>
</tr>
<tr>
<td>6</td>
<td>F</td>
<td>23</td>
<td>European</td>
<td>Catalan</td>
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<tr>
<td>7</td>
<td>M</td>
<td>24</td>
<td>European</td>
<td>Advanced English</td>
</tr>
<tr>
<td>8</td>
<td>F</td>
<td>23</td>
<td>European</td>
<td>C1 English and B2 Russian</td>
</tr>
<tr>
<td>10</td>
<td>F</td>
<td>22</td>
<td>European</td>
<td>C1 English, French B1</td>
</tr>
<tr>
<td>11</td>
<td>F</td>
<td>56</td>
<td>European</td>
<td>Catalan, English, French B2</td>
</tr>
<tr>
<td>12</td>
<td>F</td>
<td>30</td>
<td>European</td>
<td>Galician, English intermediate</td>
</tr>
<tr>
<td>13</td>
<td>F</td>
<td>34</td>
<td>European</td>
<td>Catalan</td>
</tr>
<tr>
<td>14</td>
<td>F</td>
<td>52</td>
<td>Colombian</td>
<td>English intermediate</td>
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<tr>
<td>15</td>
<td>F</td>
<td>30</td>
<td>European</td>
<td>Galician, English B1, French B2</td>
</tr>
<tr>
<td>17</td>
<td>F</td>
<td>23</td>
<td>European</td>
<td>Catalan, English C1, French Basic</td>
</tr>
<tr>
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<td>F</td>
<td>52</td>
<td>European</td>
<td>Catalan</td>
</tr>
<tr>
<td>20</td>
<td>F</td>
<td>58</td>
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<td>Catalan</td>
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<td>M</td>
<td>58</td>
<td>European</td>
<td>-</td>
</tr>
<tr>
<td>22</td>
<td>F</td>
<td>51</td>
<td>European</td>
<td>Catalan, English B1, French B1</td>
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<td>23</td>
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<td>23</td>
<td>European</td>
<td>French A1, English C1</td>
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<td>F</td>
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<td>English B2</td>
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<td>F</td>
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<td>M</td>
<td>41</td>
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<td>English B2</td>
</tr>
<tr>
<td>29</td>
<td>F</td>
<td>34</td>
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<td>Catalan D, Eng B1</td>
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<td>F</td>
<td>42</td>
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<td>English B2, Catalan/Valencian C1</td>
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<tr>
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<td>Language(s)</td>
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<td>-----</td>
<td>-------------</td>
<td>-----------------------------</td>
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<td>F</td>
<td>21</td>
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<td>English B2</td>
</tr>
<tr>
<td>35</td>
<td>M</td>
<td>23</td>
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<td>F</td>
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<td>Catalan, French</td>
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<td>Peruan</td>
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<td>Catalan</td>
</tr>
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<td>40</td>
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<td>49</td>
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<td>French basic</td>
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<td>41</td>
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<td>25</td>
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<td>English advanced</td>
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<td>English advanced</td>
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<td>45</td>
<td>F</td>
<td>25</td>
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<td>Italian A1, French A2, Catalan B2, English C2</td>
</tr>
<tr>
<td>46</td>
<td>M</td>
<td>22</td>
<td>European</td>
<td>English C1, Portuguese B1</td>
</tr>
</tbody>
</table>

M = male, F = female.
Appendix C: linguistic background of the English native speakers control group and test

Table 3

*Language background data from our English native speakers’ participants.*

<table>
<thead>
<tr>
<th>ID</th>
<th>Sex</th>
<th>Age</th>
<th>English variety</th>
<th>Other languages</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>F</td>
<td>22</td>
<td>British</td>
<td>French beginner</td>
</tr>
<tr>
<td>2</td>
<td>F</td>
<td>23</td>
<td>Irish</td>
<td>German intermediate</td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>24</td>
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<td>Persian native, German beginner</td>
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<td>4</td>
<td>F</td>
<td>21</td>
<td>British</td>
<td>French and Spanish (Secondary Education level)</td>
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<td>5</td>
<td>F</td>
<td>23</td>
<td>Australian</td>
<td>French intermediate</td>
</tr>
<tr>
<td>6</td>
<td>F</td>
<td>26</td>
<td>Mix</td>
<td>Dutch native, French beginner, Lao beginner</td>
</tr>
<tr>
<td>7</td>
<td>F</td>
<td>24</td>
<td>Trinidadian</td>
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</tr>
<tr>
<td>8</td>
<td>M</td>
<td>24</td>
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<td>Dutch native</td>
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<td>9</td>
<td>M</td>
<td>52</td>
<td>British</td>
<td>French intermediate, German intermediate, Russian intermediate</td>
</tr>
<tr>
<td>10</td>
<td>F</td>
<td>37</td>
<td>British</td>
<td>Spanish C1, Dutch B2</td>
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<td>11</td>
<td>F</td>
<td>27</td>
<td>British</td>
<td>Dutch native, French A2, Arabic A1</td>
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<td>F</td>
<td>23</td>
<td>British</td>
<td>French beginner, Italian beginner, Russian beginner, Latin beginner</td>
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<tr>
<td>14</td>
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<td>Danish fluent, French and German intermediate</td>
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<td>Spanish</td>
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<td>-</td>
</tr>
<tr>
<td>20</td>
<td>F</td>
<td>29</td>
<td>American</td>
<td>American Sign Language beginner, Arab beginner</td>
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<tr>
<td>21</td>
<td>F</td>
<td>23</td>
<td>British</td>
<td>Danish upper intermediate, Japanese beginner, Persian beginner</td>
</tr>
<tr>
<td></td>
<td>Gender</td>
<td>Age</td>
<td>Nationality</td>
<td>Language(s)</td>
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<td>24</td>
<td>American</td>
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<td>25</td>
<td>F</td>
<td>23</td>
<td>American</td>
<td>German upper intermediate</td>
</tr>
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<td>Danish B2, Portuguese B2, Spanish B2, French A2,</td>
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<td></td>
<td></td>
<td></td>
<td>Arab beginner</td>
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<td>26</td>
<td>F</td>
<td>48</td>
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<td>Expert Spanish</td>
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<td>27</td>
<td>F</td>
<td>25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>M</td>
<td>21</td>
<td>American</td>
<td>Spanish intermediate, Chinese beginner</td>
</tr>
<tr>
<td>29</td>
<td>F</td>
<td>26</td>
<td>American</td>
<td>Spanish beginner</td>
</tr>
</tbody>
</table>

M = male, F = female.
Appendix D: The Linguistic Background Questionnaire

This is the adapted LEAP-Q questionnaire (Marian, Blumenfeld, and Kaushanskaya, 2007) that we used to gather information on the linguistic background of our participants. First, we asked overall questions, then they proceeded to specific questions with regard to their English learning, flowed by the LEXTALE proficiency (Lemhöfer and Broersma, 2012; Izura, Cuetos, Brysbaert, 2014) test and yet the same about Spanish.

Linguistic Background Questionnaire

We are looking for native speakers of Dutch who also know English and have some knowledge of Spanish (we are not looking for a specific level). If you have some (limited) knowledge of another language except for these three you can still fill out this questionnaire (for instance, if you have high-school level of German or French).

Filling in the questionnaire will require around 15 minutes of your time. During this time you will answer some questions with regard to the languages you know and also complete two tasks, one in English and one in Spanish, that will consist in deciding whether strings of letters are actual words or not. In case your profile is adequate to our goals, the actual testing is to take about 45 minutes and can be done either online from any location in two separate sessions or in person at the most convenient time at Radboud University (Nijmegen).

Among those who participate in the final experiment we will offer two kinds of retributions. To those doing it in person we will provide breakfast, and for those doing it online we will raffle three rewards (two of 15 € and one of 20 €).

All the data provided is going to be anonymized and only used for research purposes. The personal data is required to evaluate the suitability of your profile in order to take part in our research and contact you if that is the case.

Q1 Name:

Q2 Last Name:

Q9 Contact Email:

Q3 Date of Birth (DD.MM.YYYY):

Q4 Age:

Q5 Gender

☐ Male (1)
☐ Female (2)
☐ Other, please, specify: (3) ________________
Q10 Level of completed education:

☐ Less than high school (1)
☐ High school graduate (2)
☐ MBO (3)
☐ HBO (4)
☐ Bachelor degree (5)
☐ Master degree (6)
☐ PhD (7)
☐ Other, please, specify: (8) ____________________

Q195 What are you currently doing? For how long? i.e. I am in the third year of my BA, I have been working for a year...

Q17 In what language is your current work/study program?

Q12 Have you ever had any of these (check all that apply):

☐ Vision problem (1)
☐ Language disability (2)
☐ Learning disability (3)
☐ None (4)

Q196 What is your mother tongue?

☐ Dutch (1)
☐ Other (2) _______________
Q7 Check all the languages you have some knowledge of (more than knowing a few words or sentences):

- English (2)
- Spanish (3)
- Other (4) ______________

Q8 Please, specify other languages and level of knowledge (A1, A2, B1... or good, medium, intermediate...): i.e. Danish, A1 or Italian, beginner

Q15 Please list what percentage of the time you are currently and on average exposed to each language: (Your percentages should add up to 100%)

____ Dutch (1)
____ English (2)
____ Spanish (3)
____ Other (4)

Q13 To what extent do you identify with the cultures related to each language: (Your percentages should add up to 100%)

____ Dutch (1)
____ English (2)
____ Spanish (3)
____ Other (4)

Q18 Have you ever lived abroad?

- Yes (1)
- No (2)

Q19 Where and for how long (time in months)? What was the purpose of the stay? i.e. Denmark, one month, language course or South America, 2 months, holidays.

Q20 When did you start learning English (age in years)?

Q191 Did you start learning English in an academic setting? (i.e. university, language school, high school..)

- Yes, where? (1) ______________
- No, how? (2) ______________

Q193 What would you say your overall level of English is? (i.e. A1, A2, B1, B2... or beginner, basic, elemental, intermediate...)

83
Q22 How often do you usually use English?

<table>
<thead>
<tr>
<th></th>
<th>Daily (1)</th>
<th>Weekly (2)</th>
<th>Monthly (3)</th>
<th>A few times a year (4)</th>
<th>Never (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receptively (reading and/or listening) (1)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Productively (writing and/or speaking) (2)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

Q95 Is your study or job directly related to English?

☐ Yes (1)
☐ No (2)

Display This Question:
If Is your study or job directly related to English? Yes Is Selected

Q96 Please, explain:(i.e. I work on translation, it is my major...)

Q88 This test consists of about 60 trials, in each of which you will see a string of letters. Your task is to decide whether this is an existing English word or not. If you think it is an existing English word, you click on "yes", and if you think it is not an existing English word, you click on "no". If you are sure that the word exists, even though you don't know its exact meaning, you may still respond "yes". But if you are not sure if it is an existing word, you should respond "no". In this experiment, we use British English rather than American English spelling. For example: "realise" instead of "realize"; "colour" instead of "color", and so on. Please don't let this confuse you. This experiment is not about detecting such subtle spelling differences anyway. You have as much time as you like for each decision. This part of the experiment will take about 5 minutes. If everything is clear, you can now start the experiment.

Q24 platery

☐ Yes (1)
☐ No (2)
Q200 denial
☑ Yes (1)
☑ No (2)

Q201 platery
☑ Yes (1)
☑ No (2)

Q28 mensible
☑ Yes (1)
☑ No (2)

Q29 scornful
☑ Yes (1)
☑ No (2)

Q30 stoutly
☑ Yes (1)
☑ No (2)

Q31 ablaze
☑ Yes (1)
☑ No (2)

Q32 kermshaw
☑ Yes (1)
☑ No (2)

Q33 moonlit
☑ Yes (1)
☑ No (2)
Q34 lofty
☐ Yes (1)
☐ No (2)

Q35 hurricane
☐ Yes (1)
☐ No (2)

Q36 flaw
☐ Yes (1)
☐ No (2)

Q37 alberation
☐ Yes (1)
☐ No (2)

Q38 unkempt
☐ Yes (1)
☐ No (2)

Q39 breeding
☐ Yes (1)
☐ No (2)

Q40 festivity
☐ Yes (1)
☐ No (2)

Q41 screech
☐ Yes (1)
☐ No (2)
Q42 savoury
☑ Yes (1)
☑ No (2)

Q43 plaudate
☑ Yes (1)
☑ No (2)

Q44 shin
☑ Yes (1)
☑ No (2)

Q45 fluid
☑ Yes (1)
☑ No (2)

Q46 spaunch
☑ Yes (1)
☑ No (2)

Q47 allied
☑ Yes (1)
☑ No (2)

Q48 slain
☑ Yes (1)
☑ No (2)

Q49 recipient
☑ Yes (1)
☑ No (2)
Q50 exprate
  ☐ Yes (1)
  ☐ No (2)

Q51 eloquence
  ☐ Yes (1)
  ☐ No (2)

Q52 cleanliness
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  ☐ No (2)

Q53 dispatch
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  ☐ No (2)

Q54 rebondicate
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  ☐ No (2)

Q55 ingenious
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  ☐ No (2)

Q56 bewitch
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  ☐ No (2)
Q58 plaintively
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Q61 hasty
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○ No (2)

Q62 lengthy
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○ No (2)

Q63 fray
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○ No (2)

Q64 crumper
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○ No (2)

Q65 upkeep
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○ No (2)
Q66 majestic
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- No (2)

Q67 magrity
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Q68 nourishment
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- No (2)

Q69 abergy
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- No (2)

Q70 proom
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Q73 scholar
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Q82 pulsh
- Yes (1)
- No (2)

Q83 muddy
- Yes (1)
- No (2)

Q84 quirty
- Yes (1)
- No (2)

Q85 pudour
- Yes (1)
- No (2)

Q86 listless
- Yes (1)
- No (2)

Q87 wrought
- Yes (1)
- No (2)

Q89 When did you start learning Spanish (age in years)?

Q188 Did you start learning Spanish in an academic setting? (i.e. university, language school, high school...)
- Yes, where? (1) ________________
- No, how? (2) ________________

Q190 What would you say your overall level of Spanish is? (i.e. A1, A2, B1, B2... or beginner, basic, elemental, intermediate...)
Q197 How often do you usually use Spanish?

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Q92 Is your study or job directly related to Spanish?

☐ Yes (1)
☐ No (2)

Display This Question:
If Is your study or job directly related to Spanish? Yes Is Selected

Q93 Please, explain:(i.e. I work on translation, it is my major...)

Q97 Este es un test de vocabulario Español. En la página siguiente encontrarás 90 secuencias de letras que parecen “españolas”. Solo algunas de ellas son palabras de verdad. Por favor, señala las palabras que tú conoces (aquellas que estás convencido que son palabras españolas, incluso aunque no seas capaz de dar el significado preciso). Pero ten cuidado: Los errores se penalizan. Por eso, no tiene sentido tratar de incrementar tu puntuación marcando “palabras” que no has visto nunca. Tienes tanto tiempo como sea necesario, pero no puedes volver atrás para modificar tus respuestas. Deberías tardar unos 8 minutos a responder el cuestionario. Si todo está claro, puedes seguir con el experimento.

Q98 terzo

☐ Sí (1)
☐ No (2)
Q99 pellizcar
☐ Sí (1)
☐ No (2)

Q100 pulmones
☐ Sí (1)
☐ No (2)

Q101 batillón
☐ Sí (1)
☐ No (2)

Q102 zapato
☐ Sí (1)
☐ No (2)

Q103 tergiversar
☐ Sí (1)
☐ No (2)

Q104 pésimo
☐ Sí (1)
☐ No (2)

Q105 cadeña
☐ Sí (1)
☐ No (2)

Q106 hacha
☐ Sí (1)
☐ No (2)
Q107 antar
☐ Sí (1)
☐ No (2)

Q108 cenefa
☐ Sí (1)
☐ No (2)

Q109 asesinato
☐ Sí (1)
☐ No (2)

Q110 helar
☐ Sí (1)
☐ No (2)

Q111 yunque
☐ Sí (1)
☐ No (2)

Q112 regar
☐ Sí (1)
☐ No (2)

Q113 abracer
☐ Sí (1)
☐ No (2)

Q114 floroso
☐ Sí (1)
☐ No (2)
Q115 arsa
- Sí (1)
- No (2)

Q116 brecedad
- Sí (1)
- No (2)

Q117 ávido
- Sí (1)
- No (2)

Q118 capillo
- Sí (1)
- No (2)

Q119 lacayo
- Sí (1)
- No (2)

Q120 lampera
- Sí (1)
- No (2)

Q121 látigo
- Sí (1)
- No (2)

Q122 bisagra
- Sí (1)
- No (2)
Q123 secuestro
- Sí (1)
- No (2)

Q124 acutación
- Sí (1)
- No (2)

Q125 merodear
- Sí (1)
- No (2)

Q126 decar
- Sí (1)
- No (2)

Q127 alardio
- Sí (1)
- No (2)

Q128 pandilla
- Sí (1)
- No (2)

Q129 fatacidad
- Sí (1)
- No (2)

Q130 pauca
- Sí (1)
- No (2)
Q131 aviso
- Sí (1)
- No (2)

Q132 rompido
- Sí (1)
- No (2)

Q133 loro
- Sí (1)
- No (2)

Q134 granuja
- Sí (1)
- No (2)

Q135 estornudar
- Sí (1)
- No (2)

Q136 torpe
- Sí (1)
- No (2)

Q137 alfombra
- Sí (1)
- No (2)

Q138 rebuscar
- Sí (1)
- No (2)
Q139 cadallo
☐ Sí (1)
☐ No (2)

Q140 canela
☐ Sí (1)
☐ No (2)

Q141 cuchara
☐ Sí (1)
☐ No (2)

Q142 jilguero
☐ Sí (1)
☐ No (2)

Q143 martillo
☐ Sí (1)
☐ No (2)

Q144 cartinar
☐ Sí (1)
☐ No (2)

Q145 ladrón
☐ Sí (1)
☐ No (2)

Q146 ganar
☐ Sí (1)
☐ No (2)
Q147 flamida
- Sí (1)
- No (2)

Q148 candado
- Sí (1)
- No (2)

Q149 camisa
- Sí (1)
- No (2)

Q150 vegada
- Sí (1)
- No (2)

Q151 fomentar
- Sí (1)
- No (2)

Q152 nevar
- Sí (1)
- No (2)

Q153 musgo
- Sí (1)
- No (2)

Q154 tacaño
- Sí (1)
- No (2)
Q155 plaudir
- Sí (1)
- No (2)

Q156 besar
- Sí (1)
- No (2)

Q157 matar
- Sí (1)
- No (2)

Q158 seda
- Sí (1)
- No (2)

Q159 flaco
- Sí (1)
- No (2)

Q160 esposante
- Sí (1)
- No (2)

Q161 orgulloso
- Sí (1)
- No (2)

Q162 bizcocho
- Sí (1)
- No (2)
Q163 haciado
- Sí (1)
- No (2)

Q164 cabello
- Sí (1)
- No (2)

Q165 alegre
- Sí (1)
- No (2)

Q166 engatusar
- Sí (1)
- No (2)

Q167 temblo
- Sí (1)
- No (2)

Q168 polvoriento
- Sí (1)
- No (2)

Q169 pemición
- Sí (1)
- No (2)

Q170 hervidor
- Sí (1)
- No (2)
Q171 cintro
- Sí (1)
- No (2)

Q172 yacer
- Sí (1)
- No (2)

Q173 atar
- Sí (1)
- No (2)

Q174 tiburón
- Sí (1)
- No (2)

Q175 frondoso
- Sí (1)
- No (2)

Q176 tropaje
- Sí (1)
- No (2)

Q177 hormiga
- Sí (1)
- No (2)

Q178 pozo
- Sí (1)
- No (2)

Q179 empírador
- Sí (1)
Q180 guante
- Sí (1)
- No (2)

Q181 escudo
- Sí (1)
- No (2)

Q182 laúd
- Sí (1)
- No (2)

Q183 barato
- Sí (1)
- No (2)

Q184 grodo
- Sí (1)
- No (2)

Q185 acantilado
- Sí (1)
- No (2)

Q186 prisa
- Sí (1)
- No (2)

Q187 clavel
- Sí (1)
- No (2)
Q198 Thanks a lot for participating in our survey! We will get back to you as soon as possible! =)

Remember that in order to opt for one of our wonderful rewards you must complete the three surveys!

If you have any comments or you would like to ask us something, you can do so below:
Appendix E: English test battery

This is the test battery in English. It was the exact same test for the control group and our experimental group, the only difference were the previous questions asked to the control group, as we had no background data about them. We first present the instructions for the English native speakers, then those for the Dutch native speakers, and finally the actual test.

Instructions for English native speakers
Welcome to our study!

You have to carry out the task in one sitting, you cannot stop it and start later. It is a timed survey and you should try to finish it in less than 15 minutes. The goal is for you to go with your intuition, do not overthink the answers.

The following survey is entirely in English. In this task you will find stories followed by two sentences. The story provides a context for the two sentences. Based on this context, choose the sentence or sentences that in your opinion are most suitable. A sentence may not be suitable because either it is not grammatically correct or seems inappropriate given the context. Sometimes only one sentence is correct, sometimes both sentences are correct, and sometimes neither is correct.

All the data collected will only be anonymized and used for research purposes only.

Participation is voluntary and you may withdraw at any time. If you have any questions, please email m.todacosi@let.ru.nl.

Q2 Sex:
☑ Female
☑ Male
☑ Other, please, specify: ________________

Q53 Age:

Q54 What is your mother tongue? (you can choose more than one)
☑ English, what variety? i.e. Australian, Irish, British... ________________
☑ Other, please, specify: ________________
Q55 Do you speak other languages (more than a few words)? Which one(s)? At what level? i.e. Italian A1, German B2, or beginner Italian, upper-intermediate German...

**Instructions for Dutch native speakers**

Welcome to our study!

This is one of the two questionnaires you will be filling in order to complete our study.

You have to carry out the task in one sitting, you cannot stop it and start later. It is a timed survey and you should try to finish it in about 10 minutes. The goal is for you to go with your intuition, do not overthink the answers.

The following survey is entirely in English. In this task you will find stories followed by two sentences. The story provides a context for the two sentences. Based on this context, choose the sentence or sentences that in your opinion are most suitable. A sentence may not be suitable because either it is not grammatically correct or seems inappropriate given the context. Sometimes only one sentence is correct, sometimes both sentences are correct, and sometimes neither is correct.

All the data collected will only be anonymized and used for research purposes only.

Participation is voluntary and you may withdraw at any time. If you have any questions, please email m.todacosi@let.ru.nl.

By providing your name below, you confirm that you are above 18 years of age, that you have read the information above, and that you agree to participate in this study. In addition, you enter the raffle for three prizes in case you participate online or you will be rewarded with some homemade Spanish breakfast if tested in person.

Write down your name and last name(s):

Q2 If you would like to know more about our research, please, indicate it:

- Yes
- No

Q53 Please, indicate your e-mail:
English test battery

Q3 The girl was in the last year of her Bachelor’s degree and her whole family wanted her to finish soon in order to celebrate.

Which sentence do you think is the more appropriate in this context?

- The whole family wished lots of luck to the girl.
- The whole family wished the girl lots of luck.
- neither
- both

Q4 A group of friends went camping. During the night they felt like listening to some horror stories.

Which sentence do you think is the more appropriate in this context?

- That night Elisabeth told the stories to the boys.
- That night Elisabeth told the boys the stories.
- neither
- both

Q5 For Valentine’s Day they decided to make postcards in class and give them to the classmate they liked most.

Which sentence do you think is the more appropriate in this context?

- That’s why Henry gave the postcard to the girl.
- That’s why Henry gave the girl the postcard.
- neither
- both

Q6 The woman didn’t love anyone, but one day a man fell in love with her. He didn’t dare to tell her in person, so he decided to give her a letter.

Which sentence do you think is the more appropriate in this context?

- Later that day he wrote the letter to the woman.
- Later that day he wrote the woman the letter.
- neither
- both
Q7 The daughter needed a car, but she didn’t have enough money. Her parents wanted to help her, so they decided they needed to do something about it.

Which sentence do you think is the more appropriate in this context?

- The parents lent the money to the daughter.
- The parents lent the daughter the money.
- neither
- both

Q8 They were always thirsty during the meetings, but they forgot to bring something to drink, so...

Which sentence do you think is the more appropriate in this context?

- ...the intern brought the water to the bosses.
- ...the intern brought the bosses the water.
- neither
- both

Q9 Hannah likes singing. Her friends can’t sing but they like to listen to their favourite songs, so in order to cheer them up Hannah always...

Which sentence do you think is the more appropriate in this context?

- ...sings the songs to the friends.
- ...sings the friends the songs.
- neither
- both

Q10 Richard looked up to the writer of his favorite book. Since he really liked writing, he thought that it would be much nicer to write a letter than an email.

Which sentence do you think is the more appropriate in this context?

- So he sent the letter to the writer.
- So he sent the writer the letter.
- neither
- both
Q11 The grandma was sick and she couldn’t cook, but she was hungry and she really loved soup. Her granddaughter was taking care of her, so to make her happy...

Which sentence do you think is the more appropriate in this context?

- ...the granddaughter cooked the soup for the grandma.
- ...the granddaughter cooked the grandma the soup.
- neither
- both

Q12 The whole family spent the day by the beach. The children were playing on the sand, but one of them couldn’t manage to build a castle, so...

Which sentence do you think is the more appropriate in this context?

- ...her older sister built the castle for the child.
- ...her older sister built the child the castle.
- neither
- both

Q13 The family is having a photograph taken together and they have to wear blue clothes. The girl wants to wear a green skirt or a blue dress, but...

Which sentence do you think is the more appropriate in this context?

- ...the parents chose the dress for the girl.
- ...the parents chose the girl the dress.
- neither
- both

Q14 The girl has always loved painting, but she ran out of paint. Anthony likes the girl and knows that it’s her birthday. Anthony already knows what to get her as a gift.

Which sentence do you think is the more appropriate in this context?

- Anthony buys the paint for the girl.
- Anthony buys the girl the paint.
- neither
- both
Q15 The tourist didn’t really hear the information, so...

Which sentence do you think is the more appropriate in this context?

- ...the tourist guide repeated the information to the tourist.
- ...the tourist guide repeated the tourist the information.
- neither
- both

Q16 The husband was sad and his wife didn’t know why. She was really worried about him and decided to ask him what was wrong.

Which sentence do you think is the more appropriate in this context?

- The husband explained the problem to the wife.
- The husband explained the wife the problem.
- neither
- both

Q17 The grandma really liked a poem and her grandson knew this. For that reason...

Which sentence do you think is the more appropriate in this context?

- ...the grandson repeated the poem to the grandma.
- ...the grandson repeated the grandma the poem.
- neither
- both

Q18 Clara cleared out her closet and found lots of old clothes from her childhood that she couldn’t wear anymore.

Which sentence do you think is the more appropriate in this context?

- So Clara donated the clothes to the poor.
- So Clara donated the poor the clothes.
- neither
- both
Q19 The couple had a baby boy, but they wanted to be left alone, so they asked their family not to visit them. In the end...

Which sentence do you think is the more appropriate in this context?

- ...they introduced the baby to the family.
- ...they introduced the family the baby.
- neither
- both

Q20 The girl bought a book on Amazon. She needed it urgently, but after a few days it still hadn't arrived.

Which sentence do you think is the more appropriate in this context?

- Finally, on the last day of the month the messenger handed the package over to the girl.
- Finally, on the last day of the month the messenger handed the girl the package over.
- neither
- both

Q21 It was the girl's birthday. I wanted to bake her a cake, but my oven broke.

Which sentence do you think is the more appropriate in this context?

- That's why I couldn't finish the cake for the girl.
- That's why I couldn't finish the girl the cake.
- neither
- both

Q22 One of my friends loves reading and her birthday will be soon. My brother and I have decided to give her a book, so...

Which sentence do you think is the more appropriate in this context?

- ...this afternoon we will search the book for the friend.
- ...this afternoon we will search the friend the book.
- neither
- both
Q23 The daughter wanted to cook and for the recipe she had in mind she needed a tin of tomatoes. She already had the tin, but it was hard to open.

Which sentence do you think is the more appropriate in this context?

- Finally, the mom opened the tin for the daughter.
- Finally, the mom opened the daughter the tin.
- neither
- both

Q24 The grandma loved to drink milkshakes. Yesterday her granddaughter was visiting and she brought all the necessary ingredients with her. Then...

Which sentence do you think is the more appropriate in this context?

- ...the granddaughter mixed the ingredients for the grandma.
- ...the granddaughter mixed the grandma the ingredients.
- neither
- both

Q25 The girl's favorite breakfast is bread with jam. Her mom knows it and she wanted to give her a pleasant surprise.

Which sentence do you think is the more appropriate in this context?

- For breakfast the mom spread the jam for the girl.
- For breakfast the mom spread the girl the jam.
- neither
- both

Q26 The trash can is full. That bothers Margaret, but her flatmates are ill and they can't take it out. Margaret wants to help.

Which sentence do you think is the more appropriate in this context?

- Margaret empties the trash can for the flatmates.
- Margaret empties the flatmates the trash can.
- neither
- both
Q27 Samuel really enjoys driving. Yesterday he bought a red new car. He is thrilled with his purchase.

Which sentence do you think is the more appropriate in this context?

- Today Samuel drives his new car all around the city.
- Today drives Samuel his new car all around the city.
- neither
- both

Q28 The boy went to Barcelona. He didn’t know anything about the city beforehand, but he enjoyed meeting the people there. He said to his friends afterwards:

Which sentence do you think is the more appropriate in this context?

- In Barcelona people are really nice.
- In Barcelona are people really nice
- neither
- both

Q29 He had always been a lucky boy. As time went by, he stopped being so lucky and things started going south.

Which sentence do you think is the more appropriate in this context?

- For some years already the boy's life has been complicated.
- For some years already has the boy's life been complicated.
- neither
- both

Q30 The groom doesn't love the bride anymore, but no one knows it. They are about to get married and at the very last moment he makes a choice.

Which sentence do you think is the more appropriate in this context?

- In front of all the guests the groom breaks the bride’s heart.
- In front of all the guests breaks the groom the bride’s heart.
- neither
- both
Q31 Alice hasn’t come to class for a few days and the teacher wants to know what is the reason why. Alice’s friend explains to him....

Which sentence do you think is the more appropriate in this context?

- ...that Alice has a cold.
- ...that Alice a cold has
- neither
- both

Q32 All the students were trying to make money by selling cookies and lottery tickets...

Which sentence do you think is the more appropriate in this context?

- ...because they wanted to go to a nice location for their graduation trip.
- ...because they to a nice location for their graduation trip wanted to go.
- neither
- both

Q33 My uncle and my dad haven’t spoken to each other for many years...

Which sentence do you think is the more appropriate in this context?

- ...because they fought over money.
- ...because they over money fought.
- neither
- both

Q34 We are organizing a surprise party for my cousin, but no one knows...

Which sentence do you think is the more appropriate in this context?

- ...that my cousin already knows about the party.
- ...that my cousin already about the party knows.
- neither
- both
Q35 Gustav bought many plants to decorate his garden, but after a while they have all began to die. Gustav didn't realise...

Which sentence do you think is the more appropriate in this context?

- ...that plants need a lot of water.
- ...that plants a lot of water need.
- neither
- both

Q36 My friends and I are going to a party and I have invited a new friend of mine. I told the others...

Which sentence do you think is the more appropriate in this context?

- ...that she was the girl in the red dress.
- ...that she the girl in the red dress was.
- neither
- both

Q37 Esther is really hungry. She is eating everything that there is in the kitchen...

Which sentence do you think is the more appropriate in this context?

- ...because yesterday she only ate an apple.
- ...because yesterday she only an apple ate.
- neither
- both

Q38 Jason doesn't understand a thing in class, but he's trying to improve. He has decided to get a tutor...

Which sentence do you think is the more appropriate in this context?

- ...because this way a tutor will explain everything to him.
- ...because this way a tutor everything to him will explain.
- neither
- both
Q39 A new highway between the two capitals had been announced and people were extremely happy about it…

Which sentence do you think is the more appropriate in this context?

- ...since the old road was always so busy.
- ...since the old road always so busy was.
- neither
- both

Q40 Firefighters put out fires in order to protect nature and people, but many times they have to put out fires…

Which sentence do you think is the more appropriate in this context?

- ...that people start accidentally.
- ...that people accidentally start.
- neither
- both

Q41 You should talk it over with your friends and family before deciding on what to do next…

Which sentence do you think is the more appropriate in this context?

- ...because they might have some valuable insights into your decision.
- ...because they some valuable insights into your decision might have.
- neither
- both

Q42 We were running out of food, but didn't want to go to the supermarket because it's always so busy, Finally, we decided to go shopping on Saturday morning…

Which sentence do you think is the more appropriate in this context?

- ...since almost no one goes to the supermarket on a Saturday morning.
- ...since almost no one to the supermarket on a Saturday morning goes.
- neither
- both

Q43 Nora hadn't seen her friends from high school for quite some time and she missed them, so she decided to plan an evening out with them.

Which sentence do you think is the more appropriate in this context?

- Yesterday at midnight Nora was having dinner with her high school friends.
Yesterday at midnight was Nora having dinner with her high school friends.

Q44 Erik was going on a trip and his family drove him to the airport. He was really touched and wanted to do something nice to say thank you.

Which sentence do you think is the more appropriate in this context?

- On the way to the airport Erik sang a really moving song.
- On the way to the airport sang Erik a really moving song.

Q45 Bart’s stomach really hurt and so he went to the doctor. He thought that it might be cancer and the results were taking quite some time.

Which sentence do you think is the more appropriate in this context?

- Terribly scared Bart decided to call the doctor.
- Terribly scared decided Bart to call the doctor.

Q46 The mayor wants to change the names of the streets and he has asked for the town’s opinion. The people in the town have said they don’t want the street names to change.

Which sentence do you think is the more appropriate in this context?

- Today the mayor has decided to change the names of the streets against the town’s opinion.
- Today has the mayor decided to change the names of the streets against the town’s opinion.
Q47 The employees are really sleepy and don't really feel like working, especially during the morning. Their solution is very simple:

Which sentence do you think is the more appropriate in this context?

- during the morning the employees have a coffee every half an hour.
- during the morning have a coffee the employees every half an hour.
- neither
- both

Q48 We went to a concert of band that we really liked. Their best hits are our favorite songs. It turns out we were really lucky:

Which sentence do you think is the more appropriate in this context?

- in the concert the musicians sang their best hits.
- in the concert sang the musicians their best hits.
- neither
- both

Q49 In the bookshop people must pay for the books, but...

Which sentence do you think is the more appropriate in this context?

- ...in the library people take books for free.
- ...in the library people books for free take.
- neither
- both

Q50 I live in an apartment and I have many neighbors. Yesterday I told the guy next door that I have a restaurant.

Which sentence do you think is the more appropriate in this context?

- Tomorrow the boy next door is coming to my restaurant.
- Tomorrow is coming the boy next door to my restaurant.
- neither
- both
Appendix F: Spanish test battery

This is the test battery in Spanish. It was the exact same test for the control group and our experimental group, only the instructions differed. We first present the instructions for the Spanish native speakers, then those for the Dutch native speakers, and finally the actual test.

Instructions for Spanish native speakers

Bienvenido/a a nuestro estudio! Debes hacer la tarea toda seguida, no puedes pararla y continuar luego. Es una tarea cronometrada y deberías terminarla en unos 20 minutos o menos. El objetivo es conocer tus intuiciones, así que no pienses demasiado las respuestas. La tarea es completamente en español. Cada pregunta consiste en una pequeña historia seguida de dos frases. La historia te da un contexto y dos frases. Debes escoger la frase o frases que te parezcan más adecuadas según el contexto. La frase puede ser inadecuada porque no es gramaticalmente correcta o no parece adecuada al contexto. A veces solo una frase es correcta, a veces ambas son correctas y a veces ninguna es correcta.

Toda la información que recojamos será usada solo con fines científicos. No se requieren datos personales. La participación es voluntaria y puedes dejar de participar en cualquier momento. Si tienes preguntas puedes mandarnos un email a m.todacosi@let.ru.nl.

Q79 Sexo:

☐ hombre
☐ mujer
☐ otro, por favor, especifica: ________________

Q80 Edad:

Q81 ¿Cuál es tu lengua materna? (puedes marcar más de una casilla)

☐ Castellano/español
☐ Otra, por favor, especifica: ________________

Q83 ¿Qué variedad de español hablas? (i.e. europeo, argentino, chileno, venezolano...)

Q82 ¿Hablas otras lenguas (más que cuatro solo cuatro palabras)? ¿Cuáles? ¿A qué nivel? Por ejemplo, italiano A1, inglés B2, o italiano básico, inglés intermedio...
Bienvenido/a a nuestro estudio! Este es uno de los dos cuestionarios que deberás rellenar para completar nuestro estudio.

Debes hacer la tarea toda seguida, no puedes pararla y continuar luego. Es una tarea cronometrada y deberías terminarla en unos 15 minutos. El objetivo es conocer tus intuiciones, así que no pienses demasiado las respuestas. No es necesario que entiendas absolutamente todas las palabras, pero sí que debes ser capaz de entender más o menos la idea de la frase, por eso te pedimos que si no entiendes más o menos el 50 % de lo que lees dejes el cuestionario y nos lo avises mandando un correo electrónico a m.todacosi@let.ru.nl.

La tarea es completamente en español. Cada pregunta consiste en una pequeña historia seguida de dos frases. La historia te da un contexto y dos frases. Debes escoger la frase o frases que te parezcan más adecuadas según el contexto. La frase puede ser inadecuada porque no es gramaticalmente correcta o no parece adecuada al contexto. A veces solo una frase es correcta, a veces ambas son correctas y a veces ninguna es correcta. Toda la información que recojamos será anonimizada y usada solo con fines científicos.

La participación es voluntaria y puedes dejar de participar en cualquier momento. Si tienes preguntas puedes mandarnos un email a m.todacosi@let.ru.nl.

Escribiendo tu nombre en el cuadro de abajo confirmas que eres mayor de 18 años, que has leído la información anterior y que aceptas participar en este estudio. Además, entrarás en el sorteo de tres premios si participas en línea o serás premiado con comida casera española si haces el test en persona.

Escribe tu nombre y apellido(s):

-------------------------------------------------------------------------------------------------------------------------

Welcome to our study!

This is one of the two questionnaires you will be filling in order to complete our study.

You have to carry out the task in one sitting, you cannot stop it and start later. It is a timed survey and you should try to finish it in about 15 minutes. The goal is for you to go with your intuition, do not overthink the answers. It isn't necessary that you understand every word in the sentences, but it is indeed necessary that you get the general idea in order to be able to answer. For this reason we ask you to leave the questionnaire if you understand less than 50% of the words you are reading. If that is the case, please, let us know by sending an email to m.todacosi@let.ru.nl.

The following survey is entirely in Spanish. In this task you will find stories followed by two sentences. The story provides a context for the two sentences. Based on this
context, choose the sentence or sentences that in your opinion are most suitable. A sentence may not be suitable because either it is not grammatically correct or seems inappropriate given the context. Sometimes only one sentence is correct, sometimes both sentences are correct, and sometimes neither is correct. All the data collected will only be anonymized and used for research purposes only.

Participation is voluntary and you may withdraw at any time. If you have any questions, please email m.todacosi@let.ru.nl.

By providing your name below, you confirm that you are above 18 years of age, that you have read the information above, and that you agree to participate in this study. In addition, you enter the raffle for three prizes in case you participate online or you will be rewarded with some homemade Spanish breakfast if tested in person.

Write down your name and last name(s):

**Spanish test battery**

Q79 Por favor, escribe tu correo electrónico: Please, write down your e-mail:

Q1 Ya que fue el cumpleaños de la niña hicieron una fiesta con muchos regalos...

¿Qué frase te parece más adecuada en este contexto?

- ...toda la familia deseó un feliz cumpleaños a la niña.
- ...toda la familia deseó a la niña un feliz cumpleaños.
- ambas
- ninguna

Q3 El padre quería mucho a la hija y sabía que a la hija le gustaba mucho la historia del bosque encantado.

¿Qué frase te parece más adecuada en este contexto?

- Cada noche el padre contaba la historia a la hija.
- Cada noche el padre contaba a la hija la historia.
- ambas
- ninguna
Q4 A Manuela le gustaba mucho compartir. En su casa tenía siempre muchas cosas, sobre todo libros.

¿Qué frase te parece más adecuada en este contexto?

☑ Así que Manuela dio los libros a los necesitados.
☑ Así que Manuela dio a los necesitados los libros.
☑ ambas
☑ ninguna

Q5 A Enrique le gustaba mucho mandar postales cuando viajaba. Normalmente echaba de menos a su familia, pero la última vez...

¿Qué frase te parece más adecuada en este contexto?

☑ ...escribió la postal a la abuela.
☑ ...escribió a la abuela la postal.
☑ ambas
☑ ninguna

Q6 Necesitábamos muchas copias del informe para la reunión, pero se había borrado el documento del ordenador. Ana tenía una copia en papel.

¿Qué frase te parece más adecuada en este contexto?

☑ Ana prestó la copia a la compañera para que la copiase.
☑ Ana prestó a la compañera la copia para que la copiase.
☑ ambas
☑ ninguna

Q7 La abuela estaba en el hospital porque había sufrido un accidente. Allí se aburría muchísimo, así que...

¿Qué frase te parece más adecuada en este contexto?

☑ ...el nieto llevó la revista a la abuela.
☑ ...el nieto llevó a la abuela la revista.
☑ ambas
☑ ninguna
Q8 La chica estaba en su último año de carrera y toda la familia quería que terminase pronto para celebrarlo.

¿Qué frase te parece más adecuada en este contexto?

- Toda la familia deseó mucha suerte a la chica.
- Toda la familia deseó la chica mucha suerte.
- ambas
- ninguna

Q9 Un grupo de amigos se fue de acampada. Por la noche querían escuchar algunas historias de miedo.

¿Qué frase te parece más adecuada en este contexto?

- Aquella noche Elisabeth contó las historias a los chicos.
- Aquella noche Elisabeth contó los chicos las historias.
- ambas
- ninguna

Q10 Por san Valentín, decidieron hacer postales en clase y darlas al compañero que les gustase.

¿Qué frase te parece más adecuada en este contexto?

- Así que Aitor dio la postal a la chica.
- Así que Aitor dio la chica la postal.
- ambas
- ninguna

Q11 La mujer no quería a nadie, pero un hombre se había enamorado de ella. Él no se atrevía a decirle en persona, así que decidió darle una carta.

¿Qué frase te parece más adecuada en este contexto?

- ...escribiría la carta a la mujer.
- ...escribiría la mujer la carta.
- ambas
- ninguna
Q12 La hija necesitaba un coche, pero no tenía suficiente dinero. Sus padres querían ayudarla, así que decidieron que debían hacer algo.

¿Qué frase te parece más adecuada en este contexto?

- Los padres prestaron el dinero a la hija para que comprase el coche.
- Los padres prestaron la hija el dinero para que comprase el coche.
- ambas
- ninguna

Q13 Durante las reuniones siempre tenían sed, pero ese día se olvidaron de traer algo para beber, así que...

¿Qué frase te parece más adecuada en este contexto?

- ...el becario llevó el café a los jefes.
- ...el becario llevó los jefes el café.
- ambas
- ninguna

Q14 Era muy tarde y la niña no se dormía. Como la niñera estaba muy cansada y quería descansar un poco,...

¿Qué frase te parece más adecuada en este contexto?

- ...cantó la canción a la niña.
- ...cantó a la niña la canción.
- ambas
- ninguna

Q15 El estudiante tenía muchas preguntas sobre la asignatura y no sabía si apuntarse. Le dijeron que la profesora era muy simpática.

¿Qué frase te parece más adecuada en este contexto?

- Así que envió las preguntas a la profesora
- Así que envió a la profesora las preguntas.
- ambas
- ninguna
Q16: El cocinero se fue temprano porque tuvo una emergencia. Una clienta aún tenía que comer, pero solo estaban los camareros. Para que la clienta no se enfadase...

¿Qué frase te parece más adecuada en este contexto?

- ...un camarero cocinó la cena para la clienta.
- ...un camarero cocinó para la cliente la cena.
- ambas
- ninguna

Q17: Era el cumpleaños de una niña y sus padres querían sorprenderla. A la niña le gustaban mucho los cuentos de hadas, así que...

¿Qué frase te parece más adecuada en este contexto?

- ...los padres construyeron un castillo para la niña.
- ...los padres construyeron para la niña un castillo
- ambas
- ninguna

Q18: El sábado hay una fiesta y una de las chicas no sabe qué ponerse. Ella tiene mucha ropa y Silvia ha decidido ayudarla.

¿Qué frase te parece más adecuada en este contexto?

- Silvia elige el vestido para la chica.
- Silvia elige para la chica el vestido.
- ambas
- ninguna

Q19: Había una vagabunda en la calle que pedía dinero porque quería comer. A Santiago no le gustaba dar dinero, pero vio que vendían bocadillos.

¿Qué frase te parece más adecuada en este contexto?

- Santiago compró el bocadillo para la vagabunda.
- Santiago compró para la vagabunda el bocadillo.
- ambas
- ninguna
Q20 A Ángeles le encanta cantar. Sus amigos no saben cantar pero les encanta escuchar sus canciones favoritas, así que para animarlos Ángeles siempre...

¿Qué frase te parece más adecuada en este contexto?
- ...canta las canciones a los amigos.
- ...canta los amigos las canciones.
- ambas
- ninguna

Q21 Enrique admiraba mucho a la escritora de su libro favorito. Como le gustaba mucho escribir, pensó que sería más bonito escribir una carta que un email.

¿Qué frase te parece más adecuada en este contexto?
- Así que envió la carta a la escritora.
- Así que envió la escritora la carta.
- ambas
- ninguna

Q22 La abuela estaba enferma y no podía cocinar, pero tenía hambre y le gustaba mucho la sopa. Su nieta la estaba cuidando, así que para hacerla feliz...

¿Qué frase te parece más adecuada en este contexto?
- ...la nieta cocinó la sopa para la abuela.
- ...la nieta cocinó la abuela la sopa.
- ambas
- ninguna

Q23 Toda la familia fue a pasar el día a la playa. Los niños jugaban en la arena, pero uno de ellos no lograba hacer un castillo, así que...

¿Qué frase te parece más adecuada en este contexto?
- ...su hermana mayor construyó el castillo a la niña.
- ...su hermana mayor construyó la niña el castillo.
- ambas
- ninguna
Q24 La familia tiene que tomarse una foto de todos juntos y tienen que llevar ropa azul. La niña quiere ponerse una falda verde o un vestido azul, pero...

¿Qué frase te parece más adecuada en este contexto?

☐ ...los padres eligen el vestido para la niña.
☐ ...los padres eligen la niña el vestido.
☐ ambas
☐ ninguna

Q25 A la chica le encanta pintar, pero se ha quedado sin pintura. A Antonio le gusta la chica y sabe que es su cumpleaños. Antonio ya sabe qué regalarle.

¿Qué frase te parece más adecuada en este contexto?

☐ Antonio compra la pintura para la chica.
☐ Antonio compra la chica pintura.
☐ ambas
☐ ninguna

Q27 Teresa tenía un secreto escondido y necesitaba hablar con alguien. Hace unas semanas empezó a ir a terapia. Ayer...

¿Qué frase te parece más adecuada en este contexto?

☐ ...Teresa dijo el secreto a la terapeuta.
☐ ...Teresa dijo a la terapeuta el secreto.
☐ ambas
☐ ninguna

Q28 La chica no entiende la actividad, su madre quiere ayudarla, pero tampoco la entiende, así que ha buscado una profesora para ayudarla.

¿Qué frase te parece más adecuada en este contexto?

☐ La profesora explica la actividad a la chica.
☐ La profesora explica a la chica la actividad.
☐ ambas
☐ ninguna
Q29 La turista no escuchó lo que dijo el guía, así que...

¿Qué frase te parece más adecuada en este contexto?

☐ ...alguien repitió la información a la turista.
☐ ...alguien repitió a la turista la información.
☐ ambas
☐ ninguna

Q30 La mujer rica tenía mucho dinero. Antes de morir pensó en hacer algo bueno con su dinero.

¿Qué frase te parece más adecuada en este contexto?

☐ Así que la mujer rica donó el dinero a los pobres.
☐ Así que la mujer rica donó a los pobres el dinero.
☐ ambas
☐ ninguna

Q31 María sale con una chica desde hace algún tiempo. Su familia aun no lo sabe, por eso hoy...

¿Qué frase te parece más adecuada en este contexto?

☐ ...María presentará la chica a la familia.
☐ ...María presentará a la familia la chica.
☐ ambas
☐ ninguna

Q32 Los alumnos estudiaron mucho porque tenían un examen de castellano. Todos estaban muy nerviosos.

¿Qué frase te parece más adecuada en este contexto?

☐ El día del examen la profesora entregó los exámenes a los estudiantes.
☐ El día del examen la profesora entregó a los estudiantes los exámenes.
☐ ambas
☐ ninguna
Q33 Rodrigo se sentía muy solo y no encontraba a nadie. Finalmente conoció a la mujer de su vida, como ser él mismo no le funcionaba...

¿Qué frase te parece más adecuada en este contexto?

- ...Rodrigo decidió decir la gran mentira a la mujer de su vida.
- ...Rodrigo decidió decir la mujer de su vida la gran mentira.
- ambas
- ninguna

Q34 El marido estaba triste y la mujer no sabía el porqué. Ella estaba muy preocupada por él y decidió preguntarle qué le pasaba.

¿Qué frase te parece más adecuada en este contexto?

- Entonces el marido explicó el problema a la mujer.
- Entonces el marido explicó la mujer el problema.
- ambas
- ninguna

Q35 La abuela no pudo oír el poema cuando el poeta lo leyó, por eso...

¿Qué frase te parece más adecuada en este contexto?

- ...el nieto repetía el poema a la abuela.
- ...el nieto repitió la abuela el poema.
- ambas
- ninguna

Q36 Carla limpió su armario y encontró mucha ropa vieja de cuando era pequeña que no podía ponerse.

¿Qué frase te parece más adecuada en este contexto?

- Así que Carla donó la ropa a los pobres.
- Así que Carla donó los pobres la ropa.
- ambas
- ninguna
Q37 La pareja tuvo un hijo, pero querían estar solos, así que pidieron a la familia que no les visitase. Al final...

¿Qué frase te parece más adecuada en este contexto?

- ...presentaron el niño a la familia.
- ...presentaron la familia el niño.
- ambas
- ninguna

Q38 La muchacha compró un libro en Amazon. Lo necesitaba con mucha prisa, pero no llegaba.

¿Qué frase te parece más adecuada en este contexto?

- El último día del mes el mensajero entregó el paquete a la muchacha.
- El último día del mes el mensajero entregó la muchacha el paquete.
- ambas
- ninguna

Q39 La profesora nos pidió un trabajo. Tenía que escribirlo anoche, pero mi perro se puso enfermo y tuvimos que ir al veterinario.

¿Qué frase te parece más adecuada en este contexto?

- Por eso no pude terminar el trabajo para la profesora.
- Por eso no pude terminar para la profesora el trabajo.
- ambas
- ninguna

Q40 Una amiga quería entrar en casa, pero no encontraba las llaves. Me llamó para pedirme mi copia, así que...

¿Qué frase te parece más adecuada en este contexto?

- ...por la tarde busqué las llaves para la amiga.
- ...por la tarde busqué para la amiga las llaves.
- ambas
- ninguna
Q41 La niña quería comer patatas fritas. La madre le había dado una bolsa de patatas fritas, pero era muy difícil de abrir.

¿Qué frase te parece más adecuada en este contexto?

☐ Al final, abrí la bolsa para la niña.
☐ Al final, abrí para la niña la bolsa.
☐ ambas
☐ ninguna

Q42 Era el cumpleaños de Lucía y los otros alumnos decidieron hacerle un pastel con muchos ingredientes.

¿Qué frase te parece más adecuada en este contexto?

☐ La profesora mezcló los ingredientes para los alumnos.
☐ La profesora mezcló para los alumnos los ingredientes.
☐ ambas
☐ ninguna

Q43 A Miguel no le gusta la nutella, pero cuida a una niña a quien le encanta. La niña quería merendar pan con nutella.

¿Qué frase te parece más adecuada en este contexto?

☐ Para la merienda Miguel untó el pan para la niña.
☐ Para la merienda Miguel untó para la niña el pan.
☐ ambas
☐ ninguna

Q44 La chica tiene muchas cosas en su cuarto. Hoy ha hecho limpieza y ahora su papelera está muy llena y pesa mucho. Ella no puede moverla.

¿Qué frase te parece más adecuada en este contexto?

☐ El conserje vaciará la papelera para la chica.
☐ El conserje vaciará para la chica la papelera.
☐ ambas
☐ ninguna
Q45 Era el cumpleaños de la chica. Tenía que tener el pastel listo para el viernes, pero el horno se estropeó.

¿Qué frase te parece más adecuada en este contexto?

☐ Por eso no pude terminar el pastel para la chica.
☐ Por eso no pude terminar la chica el pastel.
☐ ambas
☐ ninguna

Q46 A una amiga le encanta leer y pronto será su cumpleaños. Mi hermano y yo le regalaremos un libro, así que...

¿Qué frase te parece más adecuada en este contexto?

☐ …por la tarde buscaremos el libro para la amiga.
☐ …por la tarde buscaremos la amiga el libro.
☐ ambas
☐ ninguna

Q47 La hija quería cocinar y necesitaba un bote de tomate frito. Ella ya tenía el jarro, pero estaba cerrado con mucha fuerza.

¿Qué frase te parece más adecuada en este contexto?

☐ Finalmente, la madre abrió el tarro para la hija.
☐ Finalmente, la madre abrió la hija el tarro.
☐ ambas
☐ ninguna

Q48 A la abuela le encantan los batidos. Ayer su nieta la visitó y trajo todos los ingredientes necesarios.

¿Qué frase te parece más adecuada en este contexto?

☐ La nieta mezcló los ingredientes para la abuela
☐ La nieta mezcló la abuela los ingredientes.
☐ ambas
☐ ninguna
Q49 El desayuno favorito de la niña es el pan con mermelada. Su madre lo sabe y quería darle una sorpresa agradable.

¿Qué frase te parece más adecuada en este contexto?

☐ Para el desayuno la madre untó la mermelada para la niña.
☐ Para el desayuno la madre untó el niño la mermelada.
☐ ambas
☐ ninguna

Q63 El cubo de basura está lleno. A Margarita le molesta, pero sus compañeros están enfermos y no pueden sacarla. Margarita quiere ayudar.

¿Qué frase te parece más adecuada en este contexto?

☐ Margarita vació el cubo para los compañeros.
☐ Margarita vacía los compañeros el cubo.
☐ ambas
☐ ninguna

Q50 A Quique le gusta mucho conducir. Ayer compró un coche nuevo de color rojo. Está encantado con su compra.

¿Qué frase te parece más adecuada en este contexto?

☐ Hoy Quique conduce su coche nuevo por toda la ciudad.
☐ Hoy conduce Quique su coche nuevo por toda la ciudad.
☐ ambas
☐ ninguna

Q51 El chico fue a Barcelona. No sabía nada sobre la ciudad, pero le encantó conocer gente allí. Cuando volvió les dijo a sus amigos:

¿Qué frase te parece más adecuada en este contexto?

☐ En Barcelona la gente es muy simpática.
☐ En Barcelona la gente muy simpática es.
☐ ambas
☐ ninguna
Q52 Siempre había sido un chico con suerte. Con el tiempo, dejó de tener suerte y las cosas empezaron a ir mal.

¿Qué frase te parece más adecuada en este contexto?

- Desde hace unos años la vida del chico es complicada.
- Desde hace unos años es la vida del chico complicada.
- ambas
- ninguna

Q53 El novio ya no ama a la novia pero nadie lo sabe. Están a punto de casarse y en el último momento toma una decisión.

¿Qué frase te parece más adecuada en este contexto?

- Delante de todos los invitados el novio le rompe el corazón a la novia.
- Delante de todos los invitados le rompe el novio el corazón a la novia.
- ambas
- ninguna

Q54 Hace unos días que Lourdes no viene a clase y el profesor quiere saber cuál es el motivo. La amiga de Lurdes le explica...

¿Qué frase te parece más adecuada en este contexto?

- ...que Lurdes tiene un resfriado.
- ...que Lurdes un resfriado tiene.
- ambas
- ninguna

Q55 Todos los alumnos intentaban ganar dinero vendiendo galletas y billetes de lotería...

¿Qué frase te parece más adecuada en este contexto?

- ...porque querían ir a un sitio bonito en su viaje de fin de curso.
- ...porque a un sitio bonito en su viaje de fin de curso querían ir.
- ambas
- ninguna
Q56 Mi tío y mi padre no se hablan desde hace muchos años...

¿Qué frase te parece más adecuada en este contexto?

☐ ...porque se pelearon por dinero.
☐ ...porque se por dinero pelearon.
☐ ambas
☐ ninguna

Q57 Estamos organizando una fiesta sorpresa a mi prima, pero nadie sabe...

¿Qué frase te parece más adecuada en este contexto?

☐ ...que mi prima ya sabe lo de la fiesta.
☐ ...que mi prima lo de la fiesta ya sabe.
☐ ambas
☐ ninguna

Q58 Gustavo compró muchas plantas para decorar su jardín, pero tras un tiempo han empezado a morirse todas. Gustavo ignora...

¿Qué frase te parece más adecuada en este contexto?

☐ ...que las plantas necesitan mucha agua.
☐ ...que las plantas mucha agua necesitan.
☐ ambas
☐ ninguna

Q59 Quedamos unos cuantos amigos para ir a una fiesta e invité a una amiga nueva, les expliqué...

¿Qué frase te parece más adecuada en este contexto?

☐ ...que era la chica que llevaba el vestido rojo.
☐ ...que la chica era que el vestido rojo llevaba.
☐ ambas
☐ ninguna
Q60 Oriol tiene mucha hambre, se está comiendo todo lo que hay en la cocina...

¿Qué frase te parece más adecuada en este contexto?

- ...porque ayer solo comió una manzana.
- ...porque ayer solo una manzana comió.
- ambas
- ninguna

Q61 Fran no entiende nada, así que ha decidido intentar mejorar. Al final ha decidido ir a clases de repaso...

¿Qué frase te parece más adecuada en este contexto?

- ...porque así una profesora se lo explica todo.
- ...porque así una profesora todo se lo explica.
- ambas
- ninguna

Q62 Anunciaron una nueva autopista entre las dos capitales y la gente estaba muy contenta...

¿Qué frase te parece más adecuada en este contexto?

- ...ya que la vieja estaba muy mal hecha.
- ...ya que la vieja muy mal hecha estaba.
- ambas
- ninguna

Q64 Los bomberos apagan fuegos para proteger a la naturaleza y a las personas, pero muchas veces tienen que apagar los fuegos...

¿Qué frase te parece más adecuada en este contexto?

- ...que las personas empiezan accidentalmente.
- ...que las personas accidentalmente empiezan.
- ambas
- ninguna
Q65 Deberías hablar con tus amigos y tu familia antes de decidir qué harás...

¿Qué frase te parece más adecuada en este contexto?

☐ ...porque quizá tengan una opinión interesante.
☐ ...porque quizás una opinión interesante tengan.
☐ ambas
☐ ninguna

Q66 Nos estábamos quedando sin comida, pero siempre había mucha gente en el supermercado. Al final decidimos ir el sábado por la mañana...

¿Qué frase te parece más adecuada en este contexto?

☐ ...ya que casi nadie va al supermercado un sábado por la mañana.
☐ ...ya que casi nadie al supermercado un sábado por la mañana va.
☐ ambas
☐ ninguna

Q67 Amaral llevaba mucho tiempo sin ver a sus amigas del instituto y las echaba de menos, así que decidió quedar con ellas.

¿Qué frase te parece más adecuada en este contexto?

☐ Ayer a las doce de la noche Amaral estaba cenando con sus amigas del instituto.
☐ Ayer a las doce de la mañana estaba cenando Amaral con sus amigas del instituto.
☐ ambas
☐ ninguna

Q68 Sebas se iba de viaje y su familia le acompañaba en coche. Él estaba muy emocionado y quiso hacer algo bonito.

¿Qué frase te parece más adecuada en este contexto?

☐ De camino al aeropuerto Sebas cantó una canción muy emotiva.
☐ De camino al aeropuerto cantó Sebas una canción muy emotiva.
☐ ambas
☐ ninguna

Q69 A Antonio le dolía mucho el estómago y fue al médico. Él pensaba que podía ser cáncer y los resultados tardaban mucho.

¿Qué frase te parece más adecuada en este contexto?

☐ Con mucho miedo Antonio decidió llamar al médico.
☐ Con mucho miedo decidió Antonio llamar al médico.
☐ ambas
Q70 El alcalde quiere cambiar los nombres de las calles y ha pedido la opinión al pueblo. El pueblo ha dicho que no, que no quiere cambiar los nombres de las calles.

¿Qué frase te parece más adecuada en este contexto?

- De todos modos el alcalde cambiará los nombres de las calles en contra de la opinión del pueblo.
- De todos modos cambiará el alcalde los nombres de las calles en contra de la opinión del pueblo.
- ninguna

Q71 Los trabajadores tienen mucho sueño y pocas ganas de trabajar, especialmente durante la mañana. Su solución es muy simple:

¿Qué frase te parece más adecuada en este contexto?

- durante la mañana los trabajadores toman café cada media hora.
- durante la mañana toman los trabajadores café cada media hora.
- ninguna

Q72 Fuimos a un concierto de un grupo que nos gusta mucho. Sus mejores hits son nuestras canciones favoritas. Al final tuvimos muchísima suerte:

¿Qué frase te parece más adecuada en este contexto?

- en el concierto los músicos cantaron sus mejores hits.
- en el concierto cantaron los músicos sus mejores hits.
- ninguna

Q73 En la librería tienes que pagar por los libros, pero...

¿Qué frase te parece más adecuada en este contexto?

- ...en la biblioteca la gente coge los libros gratis.
- ...en la biblioteca coge la gente los libros gratis.
- ninguna
Vivo en un apartamento y tengo muchos vecinos. Ayer le conté al vecino de al lado que tengo un restaurante.

¿Qué frase te parece más adecuada en este contexto?

☐ Mañana el vecino de al lado vendrá a mi restaurante.
☐ Mañana vendrá el vecino de al lado a mi restaurante.
☐ ambas
☐ ninguna
Appendix G: Comparison of participants’ performance in each verb type when accounting for Spanish proficiency and English-like performance

Figure 1. Comparison of participants’ performance in each verb type when taking into account their Spanish proficiency and English-like performance simultaneously.