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An experimental study on the transfer of the dative constructions' verb biases by Flemish EFL learners

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Abstract

In both Dutch and English, many verbs of (future) possessional transfer take the so-called 'dative alternation' or 'dative shift'. That is, in their description of a dative event, speakers can choose between two broadly equivalent constructions: either the so-called double object construction (DOC), *to give someone something*, or its prepositional counterpart, the prepositional dative construction (PC), *to give something to someone.* These constructions, however, are not entirely interchangeable as their distribution depends on various factors, including both semantic as contextual, discourse-based factors, of which verb bias is the focus in this dissertation.

Both from a 'patterned' as from a constructional perspective, it is clear that the verb-compatability and collostructional preferences of the dative constructions are important for native-like idiomacy, although learners are typically unsuccessful here. Investigating whether unidiomatic dative patterning can originate in the transfer of verb-biased collostructional preferences from the Dutch dative alternation (or from a universal learner strategy), we have conducted two experiments on 40 Flemish EFL learners: an elicited imitation and sentence rating task. A slight (hypothesized) influence of linguistic proficiency was detected, although the investigated verb-related factors (formal similarity, semantic similarity and prototypicality) were only unsatisfactury informative due to our variable selection of stimuli verbs. Nevertheless, we believe that our results are valuable, as they have confirmed empirically that constructional patterns and their collostructional preferences are mastered inadequately in the L2 acquisition process and are influenced by the mother tongue, at least in the acquisition of the dative alternation in our Dutch EFL learners.

Voorwoord

Om een kleine indicatie te geven van hoeveel van het laatste jaar ik toegewijd heb aan deze thesis: iets in het Nederlands schrijven lijkt moeilijker dan ooit. Toch wil ik het Nederlands gebruiken om de, voor mij, zeer interessante verhouding tussen 'mijn twee talen' even uit te leggen en daaraan verbonden, mijn motivatie om me aan zo'n droog (?), complex (?), saai (??) onderwerp te wagen.

Het is niets nieuws dat de wereld steeds meertaliger, of zeg maar Engelstaliger, wordt. Ik spreek dan niet alleen over de wereld van internationale zakenmannen of mensen zoals ik, die Engels studeren, maar over de alledaagse wereld waarin het Engels (tot groot ongenoegen van sommigen, maar zeker niet van mij) steeds meer het voortouw neemt. Ondanks dat ik geboren en getogen ben in een bijna unaniem Vlaamse omgeving, voelde ik, zoals de meeste jongeren, al vroeg een sterke invloed van het Engels. We kunnen daarvoor de media met de vinger wijzen, maar ook evengoed mijn eigen interesse.

Nog voor ik besliste om Engels-Nederlands te gaan studeren, was ik zeer geïnteresseerd in de verhouding tussen mijn moedertaal en mijn extra 'dat gaat vanzelf'-taal en vooral ook in hoe men omgaat met verschillende talen binnen één lichaam. Vooral aspecten van de taalproductie die onbewust gebeuren en waar wij taalgebruikers weinig vat op hebben (zoals transfer, juist!) intrigeerden mij. Helaas heb ik hiervoor geen wetenschappelijke basis -neurolinguistiek gaat me toch een petje te boven-, maar wanneer ik hier de kans toe kreeg heb ik me er toch in verdiept: een eindwerk over meertalig opvoeden; een literatuurstudie over de fonologische verschillen, gelijkenissen en 'cross-linguistic influences' tussen Nederlands en Engels en een bachelorproef over lexicale verschillen, gelijkenissen en (again) 'cross-linguistic influences' tussen deze twee talen waren zo de aanloop naar deze masterproef. En hoewel er altijd een grote literatuurstudie aan voorafgaat (waarbij ik soms door de bomen het bos niet meer zie), trekt ook het experimentele aspect van dit soort studies me altijd aan. Want ookal merk jij het niet, misschien mijn experiment wel.

De keuze voor de datiefalternantie werd dan weer aangereikt door mijn promotors, Kristof Baten en Ludovic De Cuypere, die mij voor het tweede jaar op rij de kans gaven om hun (zeer behulpzame) vakgroep meermaals lastig te vallen, en ondertussen ook het veld van crosslinguistic transfer verder uit te diepen. Daarnaast wil ik natuurlijk ook mijn 40 participanten bedanken, om vrijwillig een aanzienlijk deel van hun tijd aan mij te willen besteden, en mijn vrienden en familie, die dat daarnaast (soms?) ook onvrijwillig hebben moeten doen. Ondanks dat ik deze thesis beschouw als een zware opgave in een nog veel zwaarder jaar, moet ik toegeven dat ik, tussen de wanhoopsbuien door (typisch voor een thesis, toch?), al een paar keer heb gedacht dat ik toch wel trots mag zijn op mezelf. En hopelijk denkt u, na het lezen van deze *klepper van een thesis*, daar niet anders over.

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Introduction

In recent research (Belga 2014) concerning English as a developing global lingua franca, a whopping 62% of the Flemish population reports to speak English as their second language. This number is much lower for the Walloon part of Belgium, but even higher for our Dutch-speaking neighbours, the Netherlands. It is unclear however, what kind of knowledge these people have of English, what their standards are, and how they have achieved it. After all, linguistic knowledge does not only include learning vocabulary and grammar and learning to combine them, as there are e.g. also a lot of grey zones in between. One typical example is the parts of speech in which vocabulary and grammar are combined in so-called 'patterned language' i.e. literally patterns of language which become salient through high-frequent use in these specific combinations. Note however, that their salience is only relative, as these are used and recreated unconsciously, and that the well-formedness of these combinations is only to be judged in relative terms. Hence, these are usually never learned explicitly, neither by L1 or L2 learners -and not even in official language instruction, only the lexically fixed ones e.g. collocations- but are rather learned implicitly as a result of communication and practice. Therefore, this kind of linguistic knowledge is often considered a part of fluency and native-like eloquence, which is extremely challenging for L2 learners to grasp. The importance of patterned language in L2 acquisition will be discussed in Chapter 1, as well as previously encountered motives in, and causes for anomalous pattern production in L2.

Not only the correct and expected combination of words is an important aspect of language acquisition, the choice of the correct words in the correct contexts is too. Striving for native-like 'idiomacy' (Pawley & Syder 1983), 'selection' or 'accuracy' (Wulff & Gries 2011, 61), there is a lot of semantic ànd contextual information to be learned by L2 learners. One aspect where both types of knowledge are to be combined mandatorily is the so-called 'dative alternation', which refers to the possibility in English (and Dutch) to express a dative event with two constructions: either you *give something to somebody* or *you give someone something.* These constructions, however, are not entirely interchangeable as their distribution depends on various factors, including both semantics as contextual, discourse-based aspects. We will discuss this alternation and its factors in depth in Chapter 2, both in English as in Dutch.

There is however, for this study, one specific aspect of the dative alternation we are interested in: the role the verbs play in its distribution. In Chapter 2 we will discuss its influence extensively, yet our main focus is how, and why, certain verbs are associated strongly (or even exclusively) with one of the dative constructions and others are not. From a constructional perspective, the salience of certain verb-specific combinations can be explained rather simply, as we will see in section 2.2.2.1. On the other hand however, returning to the patterned language mentioned above, these verb-construction combinations -some more typical than other- can also be seen as instances of more/less patterned language structures, which is how we will treat these verb-construction combinations first (see section 1.2). Specifically, we refer to a semi-lexical subtype of prefabricated language: 'collostructions', which are described as combinations of 'collocations' (i.e. words frequently occurring together and therefore considered a well-formed complex in contrast to other, plain combinations) and syntactic constructions. Our focus thus lies on the dative constructions to which

certain verbs "collocate" strongly and others do not, resulting in collostructional verb-construction complexes.

Both perspectives, however, shed light on the same subject: the mutual attraction of dative constructions and their verbs in English and Dutch, and what obstacles L2 learners might experience in the acquisition of this verb bias. In particular, we are curious whether Dutch EFL learners transfer these preferences from the Dutch to the English dative alternation. This is very plausible, because e.g. "holistically processed phrases are typically available for inter-language transfer" (Spöttl & McCarthy 2004), the combinatorial possibilities and preferences are problematic for both language description and acquisition and because (negative) transfer has been established repeatedly for both collocations and constructions (the building blocks of collostructions), and especially between English and Dutch, as these languages are highly similar. Also, it has been observed that -competing with learner and transfer effects- the L2 use of these constructions, especially in combinations with their verbs, becomes more nativelike with increasing proficiency. Analogously, the objective of this dissertation is to determine whether Dutch learners of English, of two different proficiency levels, are prone to transfer effects too in their use of the dative alternation, and especially whether they transfer the preferences based on verb biases.

Therefore we have conducted two experiments to determine possible transfer effects in 40 Flemish EFL learners: a productive test (an elicited imitation task see 3.2.1) and an introspective test (an intuitive judgment test see 3.2.2), of which the methodology will be discussed in Chapter 3 and the results in Chapter 4. Here, we will also investigate the influence of several subject- and item-related factors which could explain the presence or absence of the expected transfer effects: the influence of linguistic proficiency (see 4.5.1), formal similarity (see 4.5.2.1), constraints in meaning (see 4.5.2.2) and prototypicality (see 4.5.2.3).

Chapter 1   Idiomacy and patterned language in L2

Investigating so-called collostructional transfer, we first have to discuss why collostructions and other types of patterned language are so important and challenging for learners to acquire in the context of native-like idiomacy, how learners can differ in their use of patterned language and most importantly, the role of transfer effects in this matter. This chapter thus provides a contextual, theoretical overview, confirmed by previous research.

1.1   The challenge of idiomacy

When learning another language, one usually starts with the preordained, fixed parts of a language, such as the vocabulary and grammatical rules, in order to be able to combine these creatively later on. The ultimate goal of the acquisition process is to speak nativelike, which substantially includes nativelike fluency but also nativelike selection or idiomacy (Pawley & Syder 1983) i.e. the ability to create sequences with a certain ease and to choose the right words in the right contexts, respectively. Notably, the latter not only includes making grammatical choices, but also idiomatic choices, as for example in the use of idiomatic, patterned language. In their distinction between these two subtypes of eloquence, Pawley and Syder (1983) were the first to recognize the importance of patterned, prefabricated language which can be seen as a combination of and/or a grey zone between vocabulary and grammar (patterned language will be discussed further in section 1.2).

Both objectives can be trained on explicitly, however 'idiomacy' has proven to be a greater challenge. In some instances, the combinatorial possibilities of certain words or structures are evident. In others, however, native speakers would rather describe them as a "feeling", some combinations simply sounding more natural than others. Considering the complication to describe and explain them formally (Pawley & Syder 1983, 191), these have also challenged second language instruction. For some problematic areas (as e.g. some subtypes of patterned language, as we will discuss later: 1.2.2), no satisfactory explicit instruction method has been found so far, since such tendencies are rather learned implicitly, by practice and habituation (as we will also discuss later: 1.2).

Given the fact that this 'idiomacy' is such a vague matter to learn, it is imaginable that learners might fall back on their mother tongue. Note, however, that this cross-linguistic influence not only (possibly) occurs at the surface, as a typical learner strategy, but also at deeper, unconscious levels. These so-called effects of language transfer have been acknowledged widely and have obtained a

pivotal position in second/foreign language acquisition research. Unfortunately, a complete overview of the Language Transfer Hypothesis and its explanations falls beyond the scope of this paper. Therefore, we will only briefly discuss the concept of Language Transfer in general, explained by a model which fits the topic of this study best: the "Conceptual Transfer Model". Later, we will see specific transfer effects for every type of language structure discussed.

1.1.1 Obstacle: language transfer

Since the 80's onwards, 'language transfer'[1] or 'cross-linguistic influence' (CLI) effects have been recognized widely (Alonso 2002, 235). Many studies have proven that for all kinds of linguistic knowledge, and for all kind of learners (even full bilinguals), a person's first language will have influence on later mastered languages[2]. Explained rather simply, a person will typically build upon his/her former knowledge when learning something new[3], by (unconsciously) comparing –sometimes even equating- new structures to structures in his/her mother tongue (Wang & Shaw 2008, 203)[4]. In the case of similar linguistic structures, this can cause a facilitation effect (i.e. 'positive transfer'), while in other cases the association can be unjustified, resulting in negative transfer effects (Isurin 2005, 1115)[5].

The main factors at play here are both subject- and language related: language distance and level of proficiency. Concerning the first, closer typological distance of the language would result in greater transfer effects (e.g. Ringbom 1983; Odlin 1989; Biskup 1992; Chan 2004; Wang & Shaw 2008, 201). However, in addition to this objective typological distance (which partly coincides with cultural distance), Kellerman (Kellerman 1983) also distinguishes a subjective, psychological distance in his 'psychotypology' i.e. learners are also influenced by the estimated level of similarity or dissimilarity between source and target language. As a result, learners tend to associate and even overgeneralise linguistic features in closely related languages, which is less tempting in visibly different languages.

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[1] Note that transfer effects are very different from so-called 'code-switching', the ability of bilinguals to switch between their language very quickly and swiftly, which happens consciously and for different reasons: situationally or contextually motivated, see e.g. De Bot 1992, 18.

[2] The amount of studies investigating and confirming language transfer is huge. Cross-linguistic influence has been established in many studies using various methodologies, in the field of phonology, phonetics, ortography, morphology, lexicon, semantics, syntax, pragmatics and discourse. E.g. De Bot (1992, 13) mentions research on code-switching, cross-linguistic influences, and aphasia. Some example studies are e.g. Selinker 1969; Ringbom 1983; Odlin 1989; White 1991; Biskup 1992; Ellis 1994; Kellerman 1995; Jarvis 1998; Chan 2004; Jarvis & Pavlenko 2008.

[3] Transfer, i.e. the "imposition of previously learned patterns onto a new learning situation" (Isurin 2005, 1115) is actually a psychological universal in any learning process.

[4] In this respect, the transfer effects are considered as a developmental stage, inherent of the acquisition process. Isurin (2005, 1117) mentions that in some other studies, however, transfer is sometimes considered to be a compensatory learner strategy (Kellerman 1995).

[5] For the mother tongue too, the effects can be negative, as mentioned by Isurin (Isurin 2005, 1117). Cross-linguistic comparison can "cause deterioration of linguistic skills in a native language when a speaker loses contact with his (her) language community or have a limited exposure to the native language due to extensive exposure to the second language. Thus, the research on cross-linguistic influence has recently broadened to the field of study known variously as language attrition, language loss, or language forgetting (Seliger & Vago, 1991)". These might represent a simplification of "the cognitive burden by a speaker in order to avoid redundancies caused by duplication of rules and structures in the two languages (Seliger, 1996; Levine, 1996)".

A contrasting, language-independent factor is their linguistic proficiency. Higher levels of proficiency should entail lower levels of language transfer (e.g. Odlin 1989; Bagherian 2015, 152), since more advanced L2 learners are argued to "function independently of the L1" (Hendriksen 2013, 36). Strictly speaking, this is however untrue, since uncontrollably, the mother tongue "is always awake" irrespective which language is used actively, even at advanced levels of proficiency (De Bot 1992, 17). What can be expected at higher proficiency levels however, is a metalinguistic awareness due to explicit instruction, and an active counter-production of native-like language (Isurin 2005, 1116).

There are many models and hypotheses trying to explain the origin, mechanisms and restrictions of transfer, of which the most traditional ones are now considered outdated[6]. In more recent research, the focus has now shifted from the transfer of structural properties to the transfer of the underlying conceptual structures (De Cuypere, De Coster et al. 2014, 189) i.e. 'Conceptual Transfer', as was suggested by Jarvis and followers (Jarvis 2007; Jarvis & Pavlenko 2008).

1.1.1.1   Conceptual Transfer Hypothesis (CTH)

The transfer of linguistic features has been studied explicitly in bilinguals and foreign language acquisition, and, as said before, established abundantly. It is however more difficult to determine at which level the actual transfer occurs. Jarvis and followers (Jarvis 1998; Jarvis 1999; Pavlenko 1999; Jarvis 2000a; Jarvis 2000b; Pavlenko & Jarvis 2001; Pavlenko 2002; Pavlenko & Jarvis 2002; Pavlenko 2003; Jarvis 2007; Jarvis & Pavlenko 2008; Jarvis 2011, 1; but see also Graham & Belnap 1986; Ijaz 1986; Kellerman 1978; Kellerman 1986; Kellerman 1995; Odlin 2008) suggest that interlingual transfer does not only occur at surface level, but also includes a transfer of the underlying cognitive structures[7] in their model of "conceptual transfer".

Based on indirect evidence, they hypothesize that

> some cases of cross-linguistic influence seem to go beyond mere issues of structural and
> semantic well-formedness, and instead extend to conceptual meaning – particularly to the types

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[6] In an overview of transfer research, the models mentioned most are e.g. the Contrastive Analysis Hypothesis, the theory of markedness, behaviourist and cognitive models (Isurin 2005, 1115-1117), generative approaches within the framework of Universal Grammar (Alonso 2002), etc. However, it would go beyond the scope of the present paper to discuss all of these.

[7] As cognitive structures they distinguish two kinds: 'concepts' (i.e. "a mental representation of an object, quality, action, event, relationship, situation, sensation or any other perceivable or imaginable phenomenon for which the mind creates a mental category [...], generally made up of multiple images, impressions or image schemas that are acquired through various senses (e.g., visual, aural, olfactory, tactile), and which are organized according to how prototypical, or representative, they are of a particular concept." (Jarvis 2011, 4) and 'conceptualizations', which, "whereas concepts refer to representations that are stored in the mind (presumably in long-term memory), conceptualization is the process of selecting individual concepts and organizing them together (presumably in working memory) in a way that reflects a particular perspective of a specific situation" (Jarvis 2011, 4). Elsewhere, Jarvis made a similar distinction between two types of conceptual transfer (Jarvis 2007), "concept transfer and conceptualization transfer – where the former refers to cross-linguistic effects arising from differences in the structure or internal make-up of the concepts stored in the minds of speakers of different languages, and where the latter refers to cross-linguistic effects arising not from different concepts, but from differences concerning which concepts are selected and how they are organized in a particular conceptualization of a situation or event" (Jarvis 2011, 4). We will not elaborate on this distinction further, since the distinction is mainly theoretical and both kinds of conceptualization processes overlap in the (transfer of) collostructional knowledge (as is the subject of this study).

> of meaning that require a person's assessment of physical realities, social conditions and other real and imagined contexts.
>
> (Jarvis 2011,2)

and that

> language learners, L2 users, bilinguals and multilinguals from different language backgrounds sometimes express objects, events, qualities and relationships in conceptually different ways[8]
>
> (Jarvis 2011, 1)

A specific example is found in a study performed by Jarvis (Jarvis 1999), where Finnish EFL learners produced article errors concerning the countability of nouns. According to Jarvis, these errors did not solely originate in the incorrect application of the article rules, but also in the fact that these nouns, e.g. *weather* and *bread*, were (falsely) conceptualized as countable entities, as in Finnish (Jarvis 1999, 4). Building on his/her previous linguistic knowledge, a learner thus more specifically is assumed to build on the mental concepts of his native language when learning a new one (Alonso 2002, 233). The basic belief of the CTH is that the peculiarities of the conceptualization process are specific for, and entrenched in each language, following the traditional 'thinking-for-speaking' hypothesis[9]. Consequently, L2 learners have to learn to delineate and repress their native system of thinking-for-speaking (Baten & De Cuypere 2014, 15), which is very challenging due to the fact "that L1 blueprints are cognitively entrenched, which makes it difficult to learn a new way of thinking-for-speaking, and that L2 learners use L1 blueprints in building structures in L2." (Daller, Treffers-Daller et al. 2011, 100). And indeed, many crosslingual influences have been found concerning the conceptualization process (e.g. Jarvis & Pavlenko 2008; Odlin 2008; Han & Cadierno 2010; Daller, Treffers-Daller et al. 2011; Bagherian 2012, 159), as for example described by Jarvis (Jarvis 2011, 1):

> For example, bilinguals' choice of words for referring to objects and actions, as well as their choice of syntactic and discursive structures for referring to events and situations, often reflect ways of conveying meaning and intentions that are specific to particular language backgrounds.

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[8] More speficially, this concerns a language-speficic influence on for example attribution, spatial relationships, temporal relationships, motion and even structures, and the expression of certain background information explicitly asked by that language, such as presence of the speaker and nature and status of the action. An overview is given in Jarvis (Jarvis 2011, 2).

[9] The thinking-for-speaking hypothesis (TFSH), originally stated by Slobin (1991; 1993; 1996), refers literally to a specific kind of thinking for verbal purposes. It refers to a process of 'speechplanning', of translating conceptual structures into linguistic structures, which is presumably partly determined by the language (i.e. a weak relativist position) (Jarvis 2011, 4). A more detailed explanation is given in Jarvis (Jarvis 2011, 3): "the relevant speech-planning processes are referred to by Levelt (1989)and von Stutterheim and Nüse (2003) as macro-planning and micro-planning, where macroplanning involves decisions about what information to convey about a situation or event and at what level of detail, whereas micro-planning involves structuring and linearly ordering the selected non-linguistic meanings in a way that is compatible with the structures and categories available in the speaker's language (see Slobin 1993; 1996". According to Levelt (1989, 145) these processes too are subject to cross-linguistic transfer: when learning another language, the language-specific ways thinking-for-speaking of the mother tongue is claimed the way in which L2 learners verbalize their thoughts in their L2. Note however, that the overlap between conceptual transfer, thinking-for-speaking and linguistic relativity is not complete. For more information, see Jarvis (2011, 3) or Bagherian (2012, 153), amongst others. Also, conceptual transfer does not equal semantic transfer. For a comparison, see e.g. Bagherian (2012, 154).

1.1.1.1.1 Linguistic proficiency

For conceptual transfer, the level of linguistic proficiency has shown to play an important role. More specifically, Bagherian (2012, 158) mentions 'length and amount of language exposure' and 'language dominance and proficiency'[10] as major factors influencing conceptual transfer. In detail, learning concepts (and conceptualization patterns) in a second language includes processes as 'conceptual translation' and 'conceptual awareness', terminology introduced by Danesi (2008). The former "occurs when L2 learners during the earliest phases of second language learning unconsciously rely on their native conceptual system (CS1) to decipher novel input and direct the choice of L2 structures" (Bagherian 2012, 158); the latter is considered to be an important strategy to counter conceptual transfer:

> Its role in conceptual transfer parallels the effect of language awareness on language transfer. As the role of explicit knowledge and conscious monitoring in decreasing the occurrence of transfer (e.g. Odlin, 1989; Jarvis, 2002) or in avoiding negative transfer (e.g. Kasper, 1997) has constantly been highlighted, this role can likewise be discussed at the level of concepts.
>
> (Bagherian 2012, 158).

Striving for competences as 'conceptual awareness' is assumed to help L2 learners achieve nativelike idiomacy, from which they are expected to suppress both superficial and conceptual transfer. The question is, can they really?

1.2 Patterned language

Even though one of the prototypical characteristics of a language system is that it enables speakers to recombine parts of speech to create new utterances - infinitively by definition-, a large part of our discourse seems to be recycled (Stubbs 1995, 19). Note that not only the basic 'building blocks' like vocabulary and grammar are re-used, also combinations and intermediaries of which our focus is patterned language[11].

Corpus research[12] has shown that a great deal of natural language production consists of recurrent multiword combinations of both lexical and grammatical elements, which (in our perception) defines patterned or prefabricated language. Although these combinations are phrasal in nature, they still demonstrate single paradigmatic choices (e.g. Sinclair 1991, 100; Gyllstad 2007) and therefore can be placed on the intersection of grammar and lexis[13]. Accordingly, Nattinger and DeCarrico (1992) call

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[10] These are two of the nine key factors that Jarvis and Pavlenko (2008) believe influence the conceptual change in L2 learners.

[11] The phraseological perspective of L2 acquisition and production is discussed in depth in for example Schmitt (2004) and Hunston and Francis (2000).

[12] E.g. Pawley & Syder 1983; Sinclair 1991; Ellis 1994.

[13] Stefanowitsch & Gries (2003, 210) mention the importance of patterned language in a recent, more holistic view on language:

these formulaic expressions "lexical phrases" which are claimed to be "stored holistically in the mental lexicon" (Gilquin 2010, 185; see also e.g. Durrant 2008; Durrant 2009; Columbus 2010; Ellis, Simpson-Vlach et al. 2008; Hendriksen 2013, 50).

The most prominent are the 'collocations' i.e. strict combinations of words that 'prefer to' occur together, e.g. *a bar of soap* vs. *?a piece of soap, ?a block of soap.* Its grammatical counterparts are 'colligations', in which certain lexemes typically co-occur with complements of a specific grammatical quality or word class (Stefanowitsch & Gries 2003, 210), e.g. *believe* is typically followed by a *that*-clause. At a more abstract level, there are 'collostructions', i.e. grammatical constructions in combination with the lexemes which typically fill in their syntactic slots e.g. the construction [N *waiting to happen*] mostly occurs with the nouns *accident* and *disaster* (Stefanowitsch & Gries 2003, 219). Similar, but less lexically restricted, are patterns with 'light [14](uses of) verbs' as e.g. *do, have, give.* These can typically occur in a very wide range of semantic contexts since the verb in itself contributes very little to the meaning of the pattern (Poutsma 1926, 394). Instead, the main semantic contribution comes from the noun with which it is combined e.g. *take a nap ≈ to nap, have a conversation ≈ to conversate.* Recurrent combinations at sentence level are called 'idioms', largely defined combinations of which typically the overall meaning can no longer be derived from its components (Ozón 2009, 126) e.g. *to stick one's neck out.*

All these combinations can be placed on a double continuum of lexical to grammatical and structurally fixed to more free combinations, sharing the emblematic characteristic that all co-occurring elements are assumed to implement a mutual "attraction" to each other. Of course, the difference between patterned language and free combinations is again continuous in nature. It has to be noted, therefore, that apart from similar vague characteristics, patterned language and other word combinations ('phraseology') cannot be clearly delimited from other combinations[15].

According to corpus research, these chunks of patterned language (partly) originate in frequency: the more frequent words are used in a certain combination, the stronger its patterned character (Gilquin 2010, 239) and the higher its degree of well-formedness (Wulff & Gries 2011, 63). As a result, some combinations are perceived as more natural than others and the combinatorial preferences in each language have to be learned by its speakers. The challenge with patterned language is that such combinatorial knowledge is implicit to a language, making it problematic to formulate adequate formal descriptions and explanations. To L1 learners, this sensibility comes naturally, as a result of ample language contact and –performance, in contrast to L2 learners, who usually fall short in this long-term learning process. The learning process of both groups will be discussed in the following paragraphs.

"Several theories – for example, Hunston and Francis' Pattern Grammar and Lewis' theory of lexical chunks (Hunston & Francis 2000; Lewis 1993; cf. also Sinclair 1991; Barlow & Kemmer 1994) – have more or less explicitly drawn attention to the fact that grammar and lexicon are not fundamentally different, and that the long-ignored multi-word expressions serve as an important link between them". This assumption is also one of the main tenets of Construction Grammar, which we will discuss later (see 2.2.2.1).

[14] Gilquin (2010, 130) mentions alternative terminology as "eventive objects", "expanded predicates" and "stretched verb constructions".

[15] Nesselhauf (2003, 227) emphasizes that "any attempt to do so involves both theoretical and practical problems", of which a further discussion can be found there.

1.2.1　Learning patterned language in L1

In the L1 acquisition process, linguistic patterns are assumed to play a very important role. In his usage-based theory, Tomasello (2003) states that

> children come to the process of language acquisition, at around one year of age, equipped with two sets of cognitive skills, both evolved for other, more general functions before linguistic communication emerged in the human species:
> • intention-reading (functional dimension)
> • pattern-finding (grammatical dimension)
>
> (Tomasello 2009, 69)

Investigating the use of collostructions, a subtype of lexico-syntactic linguistic patterns, we are mainly interested in the second dimension: being submersed in a constant language supply, children learn to abstract linguistic knowledge from individual utterances. As such, they reconstruct the language they perceive into an internal, cognitive language system[16], including specific information concerning its semantic, functional, morphological and syntactic properties. That is, learning a new word is constructing a conceptual notion with all its peculiarities, as can be deduced from meaningful utterances and then used analogically to create new combinations[17].

Knowledge on patterned language is assumed to reside in conceptual knowledge, as this is often defined as "the inventory of learners, which is either linked to lexicalized concepts (i.e., words) or grammaticized concepts (i.e., morphosyntactic categories, such as gender, number, etc.)" (Baten & De Cuypere 2014, 13) and prefabricated patterns often illustrate combinations of both. But, just like other language-mediated concepts, these patterns pose difficulties for formal description and clarification. This originates in the conceptualization process -all information is deduced and internalized individually-, which results in conceptual knowledge of a dynamic nature and with a lot of interpersonal variation (Jarvis 2011, 3) although within language communities, concepts are still quite consistent. Despite these difficulties, however, L2 learners are still expected to acquire native-like conceptual knowledge, including knowledge on how language is patterned.

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[16] Erlam (2006, 464) explains as follows: "In her theory of L2 learning Bialystok (1978) propose that implicit knowledge is developed through exposure to communicative language use and is facilitated through functional practice, and that explicit knowledge arises when learners focus on the language code and engage in formal practice." .

[17] For a more in-depth discussion, see also e.g. Tomasello (2009). Again, this is also one of the basic tenets of Construction Grammar, however here in the abstraction of linguistic schema's, as we will discuss later (see 2.2.2.1).

1.2.2   Learning patterned language in L2

Ever since the importance of phraseology for fluency and eloquence in foreign language acquisition has been recognized, patterned language is focused on explicitly in language instruction, especially now cognitive analysis confirms a similar functional importance: for the fluency of language processing (Ellis, Simpson-Vlach et al. 2008, 379)[18].

The ease with which learners learn these patterns typically depends –amongst others- on semantic transparency vs. arbitrariness, pragmatic function and frequency of co-occurrence (Wulff & Gries 2011, 69) and similarly, cognitive processability (Pienemann 1998; Hakansson, Pienemann et al. 2002; Pienemann & Hakansson 2007), a list which can be supplemented by scalar criteria added by Nation (2011) as adjacency, grammatical connectedness, grammatical structure, grammatical uniqueness, grammatical fossilization, collocational specialization, lexical fossilization and uniqueness of meaning or those mentioned in Nattinger and DeCarrico (1992): flexibility, compositionality and productivity. Consequently, one can for example claim that more restricted combinations, as collocations and idioms, might be easier to learn than combinations which can only be described as more/less natural e.g. the collostructions.

Currently, as a subcomponent of vocabulary training, foreign language instruction focusses on collocations and idioms in particular, since these are most lexically fixed. The other types (i.e. colligations, collostructions, light (uses of) verbs; for a description see 1.2) have often been ignored, which is unfortunate since these too amount to native-like idiomacy. The negligence however, is not unwarranted: the implicit knowledge of patterned language and the combinatorial properties of its components have pained both language instructors and learners (mostly because of its implicit nature, as seen before 1.2). In addition to inadequate learning material, L2 learners -in contrast to L1 learners, to whom this knowledge comes naturally as a result of ample language contact and performance- usually lack the input for this long-term learning process to learn all peculiarities. The input they are exposed to probably does not suffice to grasp all conceptual details of these language patterns (Bagherian 2012, 153), including its combinatorial possibilities, and as a result, the use of patterned language is often what distinguishes a native from a non-native speaker.

However, as these are learned by practice and habituation, advanced learners are expected to master these peculiarities better (yet rarely native-like). For example Wulff & Gries claim "that the proper use of prefabricated language is most likely to be expected only at an advanced level of general language proficiency: a learner first *needs* to acquire simple constructions alongside the complex constructions serving as syntactic frames before they can begin to explore which words *prefer* to go into which frames" (Wulff & Gries 2011, 65), as was confirmed by several studies which found a positive correlation between language proficiency and the use of idiomatic language (Yorio 1989; Schmitt 2004; Spöttl & McCarthy 2004).

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[18] The importance of recurrent patterns in language processing (lower processing effort) and consequently language comprehension and production (Pawley & Syder 1983; Cantos & Sánchez 2001; Wiktorsson 2003; Nesselhauf 2005) might stem from the fact "that the human mind is better equipped for memorizing than for creative processing", as reported in Wang & Shaw (2008, 201ff).

Also, as their conceptual inventories might look quite different due to their native thinking-for-speaking blueprint (see section 1.1.1), it is expected that early learners (unconsciously) rely on their mother tongue (Palmer 1993, 8)[19], as "holistically processed phrases are typically available for inter-language transfer" (Spöttl & McCarthy 2004)[20]. Since such inter-language transfer effects have been established abundantly, we will now discuss some previous studies concerning transfer in the category of collocations as these have been studied most often. Then we will examine whether the subject of this study, collostructions, are likewise prone to transfer effects and what this could originate in.

1.2.2.1   Learning collocations in L2

Collocations are typically described as multi-word units consisting of a "node word" and its "collocates", defined by its "(purely linear) co-occurrence preferences and restrictions pertaining to specific lexical items" (Stefanowitsch & Gries 2003, 210), which additionally "show the associations and connotations [these words] have, and therefore the assumptions which they embody" (Stubbs 1996, 172)[21]. Being very important for native-like competence in terms of fluency and accuracy, learning collocational possibilities is considered a rather essential aspect of language learning (e.g. Lewis 2000; Nesselhauf 2003, 223; Schmitt 2004; Ellis, Simpson-Vlach et al. 2008, 378; Granger & Meunier 2008; Wang & Shaw 2008, 201; Barfield & Gyllstad 2009; Wood 2010; Hendriksen 2013, 30). Collocational knowledge has often been correlated with general language proficiency (e.g. Lorenz 1999; Bonk 2001; Gyllstad 2007; Durrant 2008; Pei 2008; Boers & Lindstromberg 2009; Revier 2009 vs. e.g. Bahns & Eldaw 1993 and Koya 2005); and even very advanced learners are observed to experience difficulties in their collocation use (e.g. Biskup 1992; Lennon 1996; Farghal & Obiedat 1995; Nesselhauf 2005; Ellis, Simpson-Vlach et al. 2008, 378; Wang & Shaw 2008, 221; Laufer & Waldman 2011).

Typically, non-native collocation use differs from native production in some (rather logical) aspects: they "often use fewer collocations (Laufer & Waldman 2011) and a more restricted range of collocates (Fan 2009), underusing types found in L1 data (Granger 1998) and overusing other types[22] (Lorenz 1999; Jiang 2009)", as reported in Hendriksen (2013, 35), although high level learners collocation choices resemble nativelike behaviour more. And, even though collocations are lexically and semantically fixed by definition and thus can be learned explicitly, they seem to be quite sensitive for transfer effects, as is illustrated by many erroneous combinations.

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[19] As is claimed by Palmer (1993,8), (early) learners "tend to form such combinations by guess work or the analogy of his mother tongue".

[20] In their study of formulaic language in L1, L2, L3 and L4-acquisition, Spöttl and McCarthy (2004) found transfer effects, which was partly countered by language proficiency.

[21] As Gries and Stefanowitsch (2004, 100) emphasize, corpuslinguistic research (with its subcategory of collocational research) is very valuable since it can shed light on both the unit's semantic and syntactic properties.

[22] Hendriksen (2013, 36) states that "the favoured constructions could, in line with Hasselgren (1994), be described as 'collocational teddy bears'".

Transfer effects have actually been shown to be the main cause of incorrect collocation use (e.g. Biskup 1992; Bahns & Eldaw 1993; Granger 1998; Koya 2003; Nesselhauf 2003, 2005; Boonyasaquan 2006; Fan 2009; Jiang 2009; Laufer & Waldman 2011 vs. e.g. Wang & Shaw 2008, 217) [23], which typically occurs in the language of early EFL learners [24]. Although mother tongues typologically similar to English might lead to the creation of correct collocations by analogy as well (Bahns & Eldaw 1993), linguistic distance between source and target language is presumed to correlate with the gravity and frequency of collocational errors (e.g. Biskup 1992; Wang & Shaw 2008, 201). More specifically, the distance intended here is again psychological in nature ('psychotypology', Kellerman (1983), see 1.1.1) referring to structural differences and similarities mediating L2 collocational use. As such, increased 'perceived transferability' results in increased transfer effects [25]. This 'perceived transferability' is closely related to Nesselhauf's notion of 'congruence' (2003), which refers to the hypothesis that 'congruent' combinations, i.e. combinations which can be translated literally in both languages, are easier to learn than non-congruent counterparts, which don't have translation equivalents.

Also, the degree of semantic transparency plays a role here. Making the distinction between fully transparent (simply combining the meaning of its components), non-transparent (meaning has to be learned specifically) and semi-transparent collocations, the latter proves to be more challenging for second language learners, since the tendency to decode and compare to native language collocations might lead to incorrect associations (Nesselhauf, 2003; 2005Hendriksen 2013, 33. *Take a course*, for example, might easily be equated with the Dutch inspired *follow a course* by Dutch EFL learners.

Finally, frequency is an important variable. Corpus-based collocational research has shown that especially low-frequent collocations are the hardest to learn. Similarly, collocations of which the components show stronger associations would be easier to learn than collocations with lower MI-scores [26].

Similar findings have been found in research on transfer effects in colligation and idiom use [27]. However, since our focus lies on transfer in collostruction use (i.e. combinations of collocations and constructions) we will conclude our discussion in transfer effects in patterned language here.

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[23] These are countered by studies which claim L1 transfer effects are not very important in collocational errors (e.g. Dechert & Lennon 1989; Lennon 1996) or in collocation judgment in general (e.g. Lesniewska & Witalisz 2007).

[24] In terms of transfer effects, these are expected to be influenced less by their L1 e.g. Palmer 1933; Wolter & Gyllstad 2011; Hendriksen 2013, 36; contrary to e.g. Phoocharoensil 2003; Koya 2003; Boonyasaquan 2006.

[25] Lesniewska & Witalisz (2007, 33) explain Kellerman's vision as such: "Kellerman's (1977, 1978, 1979, 1983) work on the constraints on the "transferability" of the L1 expressions to L2 expressions. Kellerman has demonstrated that whether or not the learners transfer certain forms depends, among other factors, on how likely they think the form in question will be acceptable in the foreign language (that is, transfer depends on the "perceived transferability" of certain forms). This in turn is related to the perception of the markedness of a certain form by the learners in their L1, and their perception of the distance between the L1 and L2."

[26] MI-scores are statistical measures used in corpus linguistics, expressing the mutual association of words versus what would be expected by chance (Ellis, Simpson-Vlach et al. 2008, 380). High MI scores indicate strong association, lower scores might be combination by chance.

[27] For example, Zhang and Liu found transfer effects in colligation use, Afshunpour and Memari (2014) in idiom use.

1.2.2.2   Learning collostructions in L2

On another level of patterned language, we have the subject of our research, collostructions (and especially those with dative constructions, which we will discuss in Chapter 2).

Formally, these are combinations of a 'construction' (e.g. the dative construction) and 'collocations' (the co-occurrence of a certain verb and the other words in the construction), dubbed 'collostructions' accordingly (Mukherjee & Gries 2009, 36; Gilquin 2010, 18)[28]. Unlike collocations however, these are not lexically fixed, rather lexically inclined: all the lexemes filled in the syntactic slots of the grammatical construction share a certain attraction (or repulsion) to it (and each other), resulting in some combinations more natural than others. Vice versa, the constructions themselves can show preference for certain lexemes as well, as for example the construction [N *waiting to happen*] mostly occurs with the nouns *accident* and *disaster* (Stefanowitsch & Gries 2003, 219), rather than words like *surprise* or *party*[29]. Semantically, though, these latter combinations are not wrong, just uncommon. Thus, more than with collocations or idioms which are lexically fixed to a higher degree, such combinatorial preferences have to be learned implicitly.

The combinatorial choices which determine the composition of the collostruction itself are below the level of semantic awareness. Even native speakers can only describe the inclinations as 'a feeling'. In fact, there is no fixed native-speaker norm as "in the area of word combinations: speakers differ in what they find acceptable, individual speakers are often uncertain about whether they find a combination acceptable or not, and , additionally, there can be differences between the acceptability judgements of speakers and their own use" (Nesselhauf 2003, 228). Only corpus research can shed light on these combination patterns, rather than language description or prescription, since barely any combinations can be considered truly incorrect. Similarly, the acquisition process (presumably) mainly builds on frequency: language learners have to rely on their conceptual knowledge of the construction which might, or might not, include these specifics, formed by practice and habituation (Ellis, Simpson-Vlach et al. 2008, 389). Only learners who have experienced extreme amounts of language input can possibly master nativelike preferences, since "in their search for felicitous lexical choices, [learners] can neither rely on their intuitions, nor on appropriate reference tools" (Gilquin 2012, 5).

Not unexpected, this obscurity often results in anomalous collostruction use by EFL learners. Although most combinations are syntactically correct, it is more a case of lexical infelicity. As stated by Gilquin (2012, 20), "such constructions are unlikely to hinder communication, [but] they contribute to the foreign-soundingness of learners' production and should therefore be eradicated if one wants to attain native-like proficiency". Recent research of learner corpora has actually exposed many types of erroneous collostruction use, as will be discussed in the following paragraphs.

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[28] Similar to collocations, the terminology is quite straightforward: 'collexemes' are the words which co-occur in the slots of the constructions, the constructions is then called a 'collostruct'. Combined, we speak of the 'collostruction'. Also, analoguous to collocational analysis, the mutual attraction can be measured, as will be discussed in section **Fout! Verwijzingsbron niet gevonden.**.

[29] This example shows that in some cases, constructions are usually filled with 'complements' from a certain semantic class, adding a certain connotation to the construction called 'semantic prosody' (Stubbs 1995).

1.2.2.2.1   Anomalous collostruction use by learners

From a comparison between native and non-native corpora, Gilquin (2010) has discovered that learner's collostruction use can be divergent to a very high degree. She examined the collexemes filled in the effect slot of causative constructions as [X MAKE Y V_{pp}] and [X GET Y V_{prp}], of which only a maximum of 20% of the collexemes were shared by the native and non-native speakers (2010, 260). Many cases of divergent collostruction use has been found, very similar in nature to erroneous collocation use (see 1.2.2.1). Most 'infelicities' are related to frequency: apart from drawing from a restricted range of collexemes available for combination (Gilquin 2010, 264), learners also tend to overuse (Gilquin 2010; Wulff & Gries 2011) and underuse (Altenberg & Tapper 2001, 183; Gilquin 2010) certain combinations. Additionally, there is misuse of existing combinations, either contextually (Gilquin mentions cases where "a native speaker would probably use an adjectival construction instead" or "a native speaker would probably prefer a different phrasing altogether" (Gilquin 2010, 263) or as a back-up plan ("learners tend to fall back on the [X MAKE Y V_{inf}] construction, a construction they arguably feel safe with" (Gilquin 2010, 255). Finally, and most visible, are cases of mismatching of collexemes to unexisting combinations which results in an unwarranted expansion of their mental range of combinatorial possibilities (Gilquin 2010, 264).

Explanations can be sought in many aspects of the learner acquisition process. Mismatches and lexical idiosyncrasies for example can be a result of simple unawareness of learners for the lexical preferences or restrictions of certain constructions e.g. regarding to the semantic class of the complements. Due to a lack of experience (and inadequate instruction materials[30]), this can result in a (unwarranted) higher degree of lexical variation in collostructions (Gilquin 2010, 264). Unawareness of register results in similar infelicities, for example the tendency to use informal elements in formal contexts (Gilquin 2010, 265). Overuse might stem from a so-called 'teddy bear effect' (Hasselgren 1994; Gilquin 2010, 263) the escape to a construction learners do feel comfortable with; underuse from the escape to other linguistic strategies, avoiding similar collostructions. Finally, phenomena characteristic for specific learner populations most likely originate in transfer effects (Gilquin 2010, 257), a learner strategy well-known in patterned language use (Palmer 1993, 8; Spöttl & McCarthy 2004). Also, as collostructions being combinations of constructions and collocations, which both are sensitive to cross-linguistic influence (see 1.2.2.1 and 2.2.2.1.1.1), this is not unexpected.

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[30] Gilquin repeatedly criticizes the inadequacy of learning and teaching materials for the learner's ignorance concerning collostructional possibilities, e.g; "Information about such preferences is conspicuously absent from the literature [...], let alone from the reference tools available to learners." (Gilquin 2010, 267; also Gilquin 2012, 20).

1.2.2.2.1.1   *Collostructional Transfer*

Just like congruent collocations (see 1.2.2.1), especially collostructions of which the equivalent is very similar in the target language are often subject to language transfer, since learners are tempted to rely on word-for-word translations of the collostructions. In the cases where this equation is justified, this learner method can cause facilitation effects, but in other cases it can result in unidiomatic combinations, as has been observed for many languages. The main problem is an overgeneralization of lexemes that can be filled in in the construction, often due to a combination of L1 transfer and ignorance of the lexical preferences in the target language (e.g. Montrul 2001; Cabrera & Zubizarreta 2003; Cabrera & Zubizarreta 2005a; Gilquin 2012, 1). Similarly, the presence/lack of mirror constructions in the mother tongue can result in over/underuse of certain patterns in the target language (see Liu & Shaw 2001, 179; Gilquin 2010; Wulff & Gries 2011 for various mother tongues). It has, for example, been observed that French learners of English tend to overuse dynamic verbs, as opposed to stative verbs, in the EFFECT slot of *make* causative constructions, mirroring the equivalent construction in French [X FAIRE Vinf Y] which usually does take dynamic verbs (Gilquin 2000/2001).

Also, the mother tongue can direct English learners in their choice between two or more similar constructions to accompany certain words, as is the case in alternations (e.g. Inagaki 1997; Baten & De Cuypere 2014, 9; even in bilinguals: Woods & Zarqane 2012); or a transfer of both constructions into a language which does not allow an alternation (White 1991) or the other way around (Mazurkewich 1984a). We will discuss similar behaviour for the dative alternation in particular in section 2.2.2.2.1.3.

Given the assumed high degree of 'perceived transferability' between Dutch and English, we expect similar transfer effects, possibly leading to inappropriate complementations in our experiment.

Note, however, that there are also several studies of which the results cannot be contributed to transfer effects (e.g. Montrul 1999; Gries & Wulff 2005, 182; De Cuypere, De Coster et al. 2014, 200) sometimes contrary to what was hypothesized. Instead, these are often interpreted as examples of universal learner strategies (Liu & Shaw 2001, 179), as for example the PC learner strategy which we will discuss later (2.2.2.2.1.3.1.3).

Chapter 2   The dative alternation

In the previous chapter, we have seen that collostructions are combinations of words attracted to each other, collocations, and the basic patterns to be filled in, the constructions. In our investigation of the collostructions of the dative alternation, these would be the dative constructions (DOC and PC: see 2.1 and 2.2) and -our focus- the verbs that are attracted to it (see 2.2.2.2). In this chapter, we will discuss the collostructional behaviour of the dative alternation in particular, in both Dutch and English, although now from a whole other perspective as here, we will shift from the surface level of patterned, collostructional combinations to a deeper level, to the building blocks which make up this combination from a constructional viewpoint (see 2.2.2.1). From this perspective too, transfer effects are very plausible in Dutch learners of the English dative alternation, although we will also discuss other obstacles (2.2.2.2.1.3.1). Finally, turning back to the previous chapter, we will investigate further which factors might play a role in possible collostructional transfer.

2.1   The dative alternation

In both Dutch and English, many verbs of (future) possessional transfer take the so-called 'dative alternation' or 'dative shift'. That is, in the description of a dative event, a speaker can choose between two (broadly: see 2.2) equivalent constructions both taking the same (amount of) participants: either the so-called double object construction (henceforth: DOC), or its prepositional counterpart, the prepositional dative construction (henceforth: PC). These mainly differ in the order and manner in which the two participants, the theme and recipient, are encoded. In the former both are encoded as bare objects, strictly in the recipient (IO)-theme (DO) sequence, while in the latter the sequence is reversed and the recipient is marked by means of *to* or *aan* (or another preposition)[31] (see Table 1)[32].

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[31] Typologically speaking, the dative alternation is only one of the many ways to encode events of possessional transfer. See for example Haspelmath 1995; Newman 1996, 66ff; Siewierska 1998; Colleman 2006, 2; Colleman, De Clerck et al. 2010, 3 and Haemers 2012, 22 for a discussion of these strategies, of which, remarkably, the dative alternation combines two (a neutral and indirective alingment).

[32] This formal description is mainly based on Bresnan, Cueni et al. 2007, 70; Levin 2008a, 1; Colleman & De Clerck 2009, 5-6; Colleman, De Clerck et al. 2010, 2; Wulff & Gries 2011, 72; Baten & De Cuypere 2014, 11; García 2014.

Table 1   The DOC and PC construction

DOC	Recipient	Theme	*I gave my brother the book.*
			Ik gaf mijn broer het boek.
PC	Theme	*To* + recipient	*I gave the book to my brother.*
		Aan + recipient	*Ik gaf het boek aan mijn broer.*

Notably though, although verbal alternations in theory alternate freely, it seems that these two morphosyntactic patterns for argument realization are not completely interchangeable. The alternation sometimes results in a change of meaning

> E.g. *The doctor gave Mary an attractive skin.*
> vs. *The doctor gave an attractive skin to Mary.*   (Oehrle 1976, 126)

Or sometimes is not allowed:

> E.g. *We donated $10 to UNICEF.*
> vs. **We donated UNICEF $10.*   (Green 1974, 74)

This actually posed serious problems for traditional theories about the nature and origin of this alternation i.e. the transformation theory (E.g. Jackendoff & Culicover 1971), which stated that one of these dative constructions is the 'basic' in-depth structure (the PC) of which the other structure (the DOC) can be optionally derived using a syntactic transformation rule. The assumption that language users can choose freely whether they apply the transformation is thus clearly disputed by the abovementioned examples. It is therefore assumed that these constructions are not derivations of one another, but two separate constructions after all[33]. Their distributional use seems to be determined by several factors, as we will discuss in the following paragraphs.

2.2   Distributional usage

Given the fact that many languages take this alternation, but the distributive use of these constructions can differ, many descriptive and comparative studies of dative verbs and their behaviour have been conducted. The Dutch and English alternations are widely studied too[34], and seem to have a language-specific usage as well, especially in its compatibility with certain verbs (see 2.2.2.2). On the other hand, there seem to be some factors which are rather language universal, at least for Dutch and English, possibly due to its high formal similarity in structures. For both languages,

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[33] However, in an attempt to formulate a uniform analysis of all dative verbs i.e. whether they take both dative constructions or not, there is no consensus about whether the possibility to combine with different constructions lies in the flexibility ('monoseme linkingtheory' eg. Gropen, Pinker et al. 1989) or in different senses of a verb ('polyseme linkingtheory' eg. Green 1974; Oehrle 1976; Dik 1978; Pinker 1989, Dik 1997; Krifka 1999; Krifka 2001; Hale & Keyser 2002; Beck & Johnson 2003; Harley 2003). We will however not elaborate on this here.

[34] For a description of the English dative alternation, in addition to the sources used here, we can refer to e.g. Green 1974; Givón 1984; Dryer 1986; Pinker 1989; Haspelmath 2004; Malchukov et al. 2007; Margetts & Austin 2007; for the Dutch there is mainly Colleman.

explanations for the non-random distribution of these constructions is sought in semantic motivations (see 2.2.1 and 2.2.2) and discourse-pragmatic functions (see 2.2.3), and, more interesting in this study, the role of the verb (see 2.2.2.2.1.2).

2.2.1   Semantic motivation: surface forms

From a Cognitive viewpoint, a difference in form implies a difference in semantics (Colleman & De Clerck 2009, 9; Colleman 2010, 271; Colleman, De Clerck et al. 2010, 4: 'the principle of contrast' Clarck 1987)[35]. Accordingly, many hypotheses about the distributional usage of the dative constructions are based on the assumption that in a choice for either construction, speakers intend to convey (subtle) different meanings. This mainly has to do with information structure: the order in which the arguments are presented, as in the DOC the receiver precedes the theme, while in the PC the theme is followed by the recipient (marked with a preposition), which is assumed to result in a difference in "grammatical *imagery* or *construal*, i.e. although they both serve to encode 'possessional transfer' events, they do so in distinct ways, highlighting distinct facets of the denoted event" (Colleman 2010, 271)[36]. We cannot discuss all hypothesized motivations, but some of them are

- The assumption that the DOC profiles all three arguments (agent, recipient, theme), while the PC mainly highlights the agent and the theme and their relation only, to which a non-profiled recipient argument is added in the background (Colleman 2009, 607).

- The assumption that the DOC construction is a way to portray the recipient as an undergoer versus as an non-undergoer argument in the PC construction (where the theme is the undergoer, as expected) (Foley & Van Valin 1985)

- The assumption that the change from a DOC to a PC construction implies a change in relative topicality, as the immediate postverbal position receives higher topical status but then is filled with the recipient in the former vs. the theme in the latter. Givon (1979; 1984; 1995)

- The assumption that the recipient is portrayed as more vs. less involved in the action described by a DOC vs. a PC, as in the latter the recipient is linked by a preposition, creating a larger formal distance from the giver which is perceived as a larger semantic distance too. (e.g. Kirsner, Verhagen et al. 1985; Van Belle & Langendonck 1996).

- The assumption that the DOC construction implies successful transfer, while the PC construction does not, as the transfer happens only towards the goal/recipient. (very similar to the involvement hypothesis above) (e.g. Green 1974, 157, Goldberg 1992; Goldberg 1995; Harley 2003; Krifka 2004).

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[35] A small minory, however, do advocate full semantic equivalence, eg. Aoun & Li 1989; Den Dikken 1995; Larson 1998.

[36] See also Langacker (1991a, 13-14) and Panther (1997) for a extensive description for the English constructions, and Colleman 2010 for the Dutch ones.

When only one of the constructions is compatible with a certain verb, again there are different semantic explanations[37]. First of all, there are constraints concerning semantics of the event. For example, it is said that the event is required to have an indirect object which is the possessor of the direct object, to be compatible with the double object construction (Goldsmith 1980; Mazurkewich & White 1984, 266; Gropen, Pinker et al. 1989; 206). Other constraints are typically based on the semantics of the verb, especially in relation to the semantics of the construction, which we will see in the following paragraphs.

2.2.2 Semantic motivation: verb compatibility

Somewhat complementary to the distribution on semantic grounds of the constructions, the semantic properties of the individual verbs seem to play an important role as well. In terms of semantics, it is however not very clear why verbs as *charge, award, present* can take the alternation, while *buy* and *cook* only alternate with the PC with *for* but *bring* takes both prepositional patterns and *convince* only takes the DOC (examples from Ozón 2009). Unclear at the surface that is. The compatibility of semantics of the verb with those of certain morphosyntactic frames, as the DOC and PC constructions, is assumed to be one of (main) the reasons why some verbs only allow a certain dative construction while others take the alternation (Levin 2008a, 1; Colleman 2012), at least according to the Construction Grammar[38].

2.2.2.1 Theoretical frame: construction-verb combinations in Construction Grammar

In the following paragraphs, we will see how construction-verb combinations are regarded in Construction Grammar, and especially the combination of the dative constructions with their verbs. But first, we must briefly discuss the basic presumptions of this theory.

2.2.2.1.1 Constructions

The base thesis of the cognitive-functionalist linguistic model of Construction Grammar[39] (e.g. Lakoff 1987; Fillmore 1988; Langacker 1987; Fillmore 1989; Langacker 1991b; Gleitman 1994; Goldberg 1995; Michaelis & Lambrecht 1996; Jackendoff 1997; Culicover 1999; Goldberg 1999; Kay & Fillmore 1999; Goldberg 2003; Goldberg & Casenhiser 2006; Goldberg 2009), is that our language is formed by functional restrictions in its use, and the cognitive restrictions of its users. Accordingly, patterned

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[37] There is, in traditional literature, also an assumed constraint based on morphology: only verbs with native stems are assumed to take the alternation (by rule monosyllabic or polysyllabic with initial stress while latinate stems cannot (e.g. Green 1974, 77ff; Oehrle 1976; Stowell 1981, 121-125; Mazurkewich & White 1984, 266; Gropen, Pinker et al. 1989, 207; Harley 2007). We, however, value semantic explanations more, since many exceptions have been found for the morphological constraint.

[38] We must note, however, that "the" Construction Grammar includes several heterogeneous subtheories which can be partly exclusive. They do have in common, in contrast with contemporary generative models, that these are "monostratal (i.e. there is just one level of grammar, no deep or surface structure), non-derivational (there are no transformations or similar operations) and non-modular (language is considered to be an integral part of cognition)" (Ozón 2009, 67). A comparison with generative approaches is for example made in Goldberg 2003; 219ff and Goldberg & Casenhiser 2006.

[39] Our description is mainly based on Goldberg 2003, 219ff; Stefanowitsch & Gries 2003, 210ff; Gries & Stefanowitsch 2004, 99ff; Gries & Wulff 2005, 182ff; Goldberg & Casenhiser 2006, 343ff; Verhagen 2007, 258ff; Manzanares & López 2008, 198; Ozón 2009, 67; Colleman & De Clerck 2011, 183; Hampe 2011, 212; Wulff & Gries 2011, 62; Colleman 2012, 346ff; Brooks 2013, 10-11; Levishina, Geeraerts et al. 2013, 1; and in our discussion we will mainly follow Goldberg's theory.

language is deemed very important in our language production once again[40]. In fact the Construction Grammar states that our whole language is based on patterns, 'constructions' i.e. conventionalized, learned patterns of form and (semantic our discourse) function, and that our mental "network of constructions captures our knowledge of language in toto" (Goldberg 2003, 223). This network, labelled the 'constructicon' (Croft & Cruse 2004, 255) is assumed to include constructions from all syntactic levels (morpheme, word, clause, sentence) and as such abandons the traditional distinction between syntax and lexicon[41] (see Table 2). All constructions above word level can actually be regarded as the patterned, prefabricated language we have been talking about above.

We are mainly interested in constructions in their traditional sense, best described as "(partly) specified templates that have a conventional meaning, and one or more open slots for variable constituents" (Verhagen 2007, 258) e.g. our prepositional dative pattern [S V X *to* Y], which here, apart from syntactic value, also has cognitive value. Although we will not elaborate on the internal organisation of the constructicon, it must be mentioned that our constructions are situated about halfway on the continuum between abstract, schematical and concrete, lexically determined constructions, moving more to the latter when filled in.

Table 2   Overview of constructions (based on Goldberg 2003, 220)

Type of construction	Example
Morpheme	[V–ing] 'act of X'
Word (mono-morphemic)	give
Complex word	give-ing 'act of giving'
Idiom (lexically filled)	don't give up, give-and-take
Idiom (partially filled)	[SUBJ be given to $N_{activity}$] 'X habitually does Y'
Construction (partially filled)	The Xer the Yer 'linked independent and dependent variables'
Construction (empty) = argument structure construction "complex and fully schematic symbolic units denoting generic event frames"	[SUBJ V IO DO] (distransitive) 'transfer, intended or actual'

* These constructions can be situated in two continuums:
abstract vs. concrete and on the basis of formal/internal complexity

The filling in and creation of actual expressions thus simply involves the combination of different constructions, as for example the sentence *Pat hit Chris the ball* is a combination of the subject-predicate construction (i.e. [SUBJ PRED]), the ditransitive construction, the past tense construction (i.e. [V-ed]/'past'), the noun-phrase construction, and the lexemes (or lexical constructions)

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[40] Stefanowitsch & Gries (2003, 210) mention Construction Grammar as an example of Pattern Grammar and Lexical-Chunk Theory.

[41] The condition of what are considered constructions sometimes differ, as mentioned in Goldberg (2003, 219): "Any linguistic pattern is recognized as a construction as long as some aspect of its form or function is not strictly predictable from its component parts or from other constructions recognized to exist. In addition, many constructionist approaches argue that patterns are stored even if they are fully predictable as long as they occur with sufficient frequency".

corresponding to the individual words (example given by Goldberg 1996, 68, in (Stefanowitsch & Gries 2003, 213). The only rule here is that "constructions can be combined freely to form actual expressions as long as they are not in conflict" (Goldberg 2003, 221). More specifically, this conflict would be semantically, and conflict would result in ungrammatical, infelicitous combinations:

> a word may occur in a construction if it is semantically compatible with the meaning of the construction (or, more precisely, with the meaning assigned by the construction to the particular slot in which the word appears) (Stefanowitsch & Gries 2003, 213).

2.2.2.1.1.1   *Learning constructions*

Within the scope of this thesis, it is not possible to discuss how the acquisition of constructions takes place specifically in both L1 and L2[42]. Instead, we will focus on the basics and some aspects relevant in this investigation, namely constructional transfer.

As a usage-based theory, it is typically assumed in constructionist approaches that constructions are learned from the specific encounters learners have with language, more specifically from the act of 'pattern-finding' mentioned before (see 1.2.1 above). This abstraction process is based on pragmatic and cognitive abilities, including "the ability to make statistical generalizations, and the ability to use semantics and pragmatics to help guide interpretation and generalization" (Goldberg & Casenhiser 2006, 346), which enable learners to construct their internal grammar based on conceptualized constructions. Instead of learning vocabulary and syntactic rules in traditional grammar, "accurate mastery of a language entails the acquisition of constructions at different levels of complexity and schematization, as well as knowledge of the probabilistic tendencies underlying their target-like combination" (Wulff & Gries 2011, 63), and specifically, constructional knowledge includes "phonological, morphological, syntactic, semantic, pragmatic, register and other distributionally or functionally noticeable dimensions" (Wulff & Gries 2011, 81), and paramount for this study, its construction-verb combination possibilities (see 2.2.2.1.2 below).[43]

Mainly the same abilities and processes are asked in L2 learners (e.g. Ellis 2002, 2003; Gries & Wulff 2005, 2009, 2011 (68)) although the acquisition process obviously differs in some aspects. First of all the input on which learners have to base their generalizations is, at least for Dutch learners, far more restricted than for natives, while the acquisition is mainly based on frequency and repetition. Native-like accuracy is therefore unlikely to be reached, although accuracy will "increase proportionally to the extent that learners succeed in making the right generalizations regarding which form is mapped onto which function" (Wulff & Gries 2011, 81; also Ellis, Simpson-Vlach et al. 2008, 389). This is,

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[42] Many works focus for example on how children abstract and generalize the input in particular, what stages they pass through before full mastery is reached, and how these phases are language-specific. Unfortunately, we can not elaborate on this in the scope of this thesis. For a discussion, see for example Bernolet, Hartsuiker et al. 2013, 289 and Tomasello 2009. For a discussion of (possible) acquisition stages for L2 learners, see Bernolet, Hartsuiker et al. 2013.

[43] Our discussion on how constructions are learned in general, according to Constructional grammar, is mainly based on Tomasello 1999; Fisher 2002; Tomasello 2002, 2003; Goldberg 2003, 222ff; Goldberg & Casenhiser 2006, 346; Ellis, Simpson-Vlach et al. 2008, 376; Manzanares & López 2008, 198ff; Gilquin 2010, 13.

however, exactly where L2 learners are compromised again, as they already have a constructional system available from their mother tongue. And although constructionists believe that there are cross-linguistic similarities "explained by appeal to general cognitive constraints together with the functions of the constructions involved" (Goldberg 2003, 219), constructions are still believed to vary crosslinguistically, even in the case of very similar constructions as the dative constructions[44]. As a result, influence from the Dutch "blueprint" for the structures in L2 could be disadvantageous and of course, "in learning English, native [Dutch] speakers must accept combinations in their second language (L2) that are inadmissible in their native language (L1)", of other way around" (Brooks 2013, 5-6).

Although it has been shown that learners do create new 'constructions' for the L2[45], both in terms of semantics and collostructional preferences, instead of simply relying on L1 knowledge (Liang 2002; Van Hell & Dijkstra 2002; Waara 2004; Gries & Wulff 2005, 195; Prior, MacWhinney et al. 2007; Ellis, Simpson-Vlach et al. 2008; Kim & McDonough 2008; Manzanares & López 2008, 203; Gries & Wulff, 2009; Wulff & Gries 2011, 68; Bagherian 2012, 185; Bernolet, Hartsuiker et al. 2013, most of them advocate a correlation with language proficiency); many studies have established that constructional knowledge in L2 is affected by L1 too. For example, cross-linguistic priming effects in L2 learners and bilinguals have been found for many constructions and language pairs (e.g. Juffs 2000; Branigan, Pickering et al. 2000; Hartsuiker, Pickering et al. 2002; Flett 2003; Loebell & Bock 2003; Meijer & Fox Tree 2003; White 2003; Hartsuiker, Pickering et al. 2004; Desmet & Declercq 2006; Salamoura & Williams 2006; Bernolet, Hartsuiker et al. 2007; Salamoura & Williams 2007; Schoonbaert, Hartsuiker et al. 2007; Vasilyeva, Waterfall et al. 2010; Bernolet, Kantola & Van Gompel 2011; Hartsuiker et al. 2013). Also for spontaneous language production, for example, De Bot (2000, 76) mentions an event where "during simultaneous interpreting, the French argument structure of voter ("to vote"), which takes a noun phrase object, was used with the Dutch translation equivalent (stemmen), which takes a prepositional object". This transfer of constructional knowledge can even include transfer in linearization resulting in L1-like word orders (e.g. Daller, Treffers-Daller et al. 2011; Baten & De Cuypere 2014 vs. De Cuypere, De Coster et al. 2014, 202)[46]. Some of these cases even led to the assumption that such information might be shared for both languages (at least for structures that are sufficiently similar in L1 and L2) (e.g. Cai, Pickering et al. 2001; Hartsuiker, Pickering et al. 2004; Bernolet, Hartsuiker et al. 2007; Schoonbaert, Hartsuiker et al. 2007; Hartsuiker & Pickering 2008; Bernolet, Hartsuiker et al. 2009). They, in analogy to the shared lexicon and shared syntax account, assume that similar constructions from different languages are stored together. Others believe that the languages are indeed activated simultaneously, yet stored separately. We will not take sides in this discussion, since transfer effects have been established either way, and once again a discussion of this complex matter would fall way beyond the scope of this dissertation.

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[44] We will see in 2.2.2.2.1.1 that although the DOC and PC patterns are very similar in Dutch in English, these are not identical. Complete overlap would actually be very rare, as "two constructions in different languages can be identified as instances of the same construction if and only if their form and function is identical once other constructions in the language that might differ are factored out" (Goldberg 2003, 222).

[45] In fact, " L2 learners are apparently very similar to children acquiring their first language in that constructional knowledge beyond the word level is gained over time, and therefore one indicator of general language proficiency" (Wulff & Gries 2011, 69).

[46] Other research has found proof that basic word order as well is can be transferred from source to target language, as discussed extensively in Isurin (2005, 1117-1118). However, since the dative alternation is independent from basic word patterns in Dutch and English, we wil not discuss this any further.

Transfer effects do, again, seem to decrease with increasing proficiency: when further acquiring the properties of the target structures, high proficiency learners are capable to recover from these negative transfer effects (e.g. Juffs 2000; White 2003; Oh & Zubizarreta 2006; Oh 2010). Baten and De Cuypere (2014, 32), for example, state that "[t]he entrenchment of the two alternating constructions will most likely change over time, i.e. when learners become more proficient, they may be able to shed the Dutch-originated Thinking-for-Speaking" (which was also predicted by the Conceptual Transfer Hypothesis 1.1.1.1)

2.2.2.1.2 Construction-verb combinations

An important part of constructional analysis/description is focused on the complementation of the verb slot in certain argument structures i.e. the formation of collostructions[47]. Our main focus is the role verbs play in the formation of dative patterns, but first a brief explanation on how construction-verb combinations are constrained in Construction Grammar is needed[48].

First of all, as when filling any construction, it is crucial that the semantics of the construction are compatible with those of the verb[49]. Those not only include conditions on what argument types, grammatical categories or surface forms are asked, but also the meaning and discourse-pragmatic properties intrinsical to the construction[50]. The main reason why constructions not only allow verbs that encode the meaning of the construction itself (i.e. 'elaboration'), as *give* for the ditransitive 'X causes Y to receive Z' construction, is that argument structures are by definition highly polysemous. In Construction Grammar, each construction has "a family of related senses built around a central sense [...] Each of these constructional subsenses is associated with one or more semantic classes of verbs" (Colleman & De Clerck 2011, 186) which mainly differ in prototypicality compared to the central meaning (i.e. 'extension'[51]). Here we can refer to another type of semantic relationship between the semantics of the construction and those of the verb: so-called 'coercion':

> [...] semantic compatibility does not have to mean semantic identity. For example, as just pointed out, the word hit does not have a transfer meaning; however, its meaning is compatible with a transfer meaning – hitting something may be a way of setting something in motion, which

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[47] Although technically, a collostruction is a combination of a construction and its lexical complements, we use the term to refer only to the combination of a construction and its verb.

[48] Note that the discussion here is limited and highly schematical. For a more extensive discussion, see for example Goldberg 1995. Our discussion is mainly based on Goldberg 1995, 1997 (386ff); Gries & Stefanowitsch 2004, 99; Goldberg & Casenhiser 2006, 348; Verhagen 2007, 258ff; Ozón 2009, 69; Colleman & De Clerck 2011, 186; Hampe 2011; Colleman 2012, 217ff.

[49] These semantics also include the compatability of lexicale en constructionele argumentroles, on which unfortunately we cannot elaborate. For more information on so-called 'fusion' and 'coercion', see e.g; Goldberg 1995; Stefanowitsch & Gries 2003, 213; Cabrera & Zubizarreta 2005a, 26; Hampe 2011, 217ff.

[50] It is important to note that, unlike in traditional syntactic description, the construction's semantics do not originate in the verb used. In fact, they "distinguish a verb's "core" semantics from the semantics of that expression when the verb appears in different argument structure arrays", as is explained in for example (Goldberg 1997, 384ff). There is much evidence that the construction contributes in the semantics, as for example that verbs can have different meanings when filled in different constructions: eg. examples given in Goldberg & Casenhiser (2006, 348*): He sliced the bread*. (transitive); *Pat sliced the carrots into the salad*. (caused motion); *Pat sliced Chris a piece of pie*. (ditransitive*); Emeril sliced and diced his way to stardom*. (way construction); *Pat sliced the box open*. (resultative).

[51] Goldberg (1997, 386ff) gives an exhaustive explanation of the usual verb extensions besides elaboration: force-dynamic relation (means, instrument, result, denial), precondition and co-occuring activity.

> may serve as a means of transferring it to someone. Here, the ditransitive construction is said to coerce a transfer reading of hit. In such cases, a more abstract construction may add properties that are unspecified or underspecified in the more specific construction (such as a lexical item)
>
> (Stefanowitsch & Gries 2003, 213).

In combination with less prototypical verbs, the construction thus encodes a related, but different meaning, as for example a negation or a metaphorical or metonymic extension of the central meaning (which we will see later for the dative constructions in particular). New combinations are thus possible as long as these verbs can, in some way, be regarded as one of the conventional associated semantic verb classes; accordingly, borderline verbs will be received as unconventional.

In fact, it is assumed that all possible combinations of the construction with conventional verbs are stored as 'daughter'constructions, lexically filled versions of the schematic argument structure which 'inherit' its properties (i.e. 'inheritance' Goldberg 1995, 2003, 222-223; Langacker 2000; Croft 2003).

2.2.2.2   The dative constructions: semantics and verb compatibility

As a typical lexical alternation, the dative constructions are compatible with the same kind of semantically related verbs i.e. verbs of possessional transfer (Colleman 2006, 18) As such, they are said to be cover the same collostructional space[52]. Also in their semantics, they are highly similar when comparing their subsenses (see constructional polysemy, above): in broad semantic terms, both are compatible with more verbs than those of strict transfer (X causes Y to receive Z, Goldberg (1995), as their extended (combined) meanings include for example 'verbs of instantaneous causation of ballistic motion' (throw, toss) and 'verbs of continuous causation in a deictically specified direction' (bring, take) which encode successful transfer effects; verbs of communication (metaphorical transfer following the conduit metaphor of Reddy (1979)); verbs of permission ('enables recipient to receive patient'); verbs of future transfer; verbs of giving with associated satisfaction conditions (guarantee, promise); causal events of transfer (i.e. transfer of effects: attributes are possessions); verbs of refusal (i.e. denial of transfer); and so on.

However, at the same time, these are still constructions on their own (Langacker 1991a; Goldberg 2002) with individual semantic properties, which is directly reflected in their verb compatibility[53] (Wulff & Gries 2011, 72). Conversely, semantic deductions have been made from their verb compatibility i.e. the "different kinds of verbs filling their V-slots, i.e. from the ranges of verbs which can fill their V-slots and from the frequency with which this occurs (Colleman 2009, 596).

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[52] A term by (Levishina, Geeraerts et al. 2013, 1), denoting a nondiscrete "set of constructions covering a certain semantic domain […] which may incorporate both grammatical and lexical units at any level of schematicity".

[53] For example, the PC construction is (while the DOC is not) compatible with verbs of communication which express the 'speech act' (eg. *she shouted me the answer) and verbs which encode a causing and transfer effect simultaneously (eg. *she threw me the box) (Haemers 2012, 31ff).

In the traditional semantic approach (often referred to as 'the uniform multiple meaning approach', their differences are explained in terms of 'caused possession/reception' for the DOC versus 'caused motion' for the PC which is specifically encoded in the *to* (or *aan*)[54] (e.g. Gropen, Pinker et al. 1989, 241ff; Hovav & Levin 2008, 142ff; Levin 2008b, 1ff; Colleman 2009, 593ff; Colleman & De Clerck 2009, 12ff; Colleman, De Clerck et al. 2010, 3ff; Haemers 2012, 31ff and many others).

Specifically, the DOC encodes an event in which the agent causes a recipient to possess a theme; the PC an event in which "an agent causes a theme to move along a path to a goal, where the movement and path are interpreted in the possessional field (Gruber 1965; Jackendoff 1972, 1983)." (Hovav & Levin 2008, 130), in which the recipient is presented as the prospective possessor of the theme in the former, and endpoint of a spatio-temporal path travelled by the theme in the latter.[55] This for example explains why verbs of denial such as *refuse* are not compatible with the PC construction as no actual transfer takes place, and verbs without resulted possession are not compatible with the DOC (as *send* to location). In a way, *to*-recipients are thus less restricted, including "recipients (possessional goals)[56] and spatial goals [...], as well as some arguments that are not clearly goals, as with the English verbs conform to, submit to, surrender to, yield to, restrict NP to, subject NP to, as well as belong to, which takes a possessor which is not a recipient, and adhere to, cling to, attach NP to, and similar verbs, which take locations". This distinction is however not supportable when one considers sentences in which the PC is the unmarked pattern despite the lack of spacial transfer: e.g. *ik bracht een laatste groet aan mijn geboortedorp* (Colleman & De Clerck 2009, 13) or other counterexamples.

Therefore, Rappaport Hovav and Levin (2008, amongst others) have constructed an alternative 'verb sensitive approach'. Building on Jackendoff's distinction (1990, 197) between give-type verbs (whose meaning inherently involves change of possession, typically 'caused possession') and throw-type verbs (a class described as 'verbs of instantaneous imparting of force in some manner causing ballistic motion' (Pinker 1989, 110) (typically 'caused motion'), they add the category of send-type verbs to the latter meaning. These latter two categories can be associated with a caused possession meaning too, though, "as causing a change in an entity's location may result in its having a new possessor" (Colleman & De Clerck 2009; 15), which allows their combinations with the DOC patterns. The give-type verbs are still only associated with the caused possession meaning, and "[t]he only reason they combine with to is because this preposition is not restricted to spatial goals in English, but covers a wide range of argument types, including recipient", as mentioned above[57] and

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[54] The Dutch and English use of a spacial marker for recipient functions (therefore 'allative' or (direction marker') is crosslinguistically common (Colleman, De Clerck et al. 2010, 3). See for example Colleman & De Clerck (2009, 12ff) and Colleman, De Clerck et al. 2010) for a discussion of the nature of this dative use and the semantics of this preposition and (Cuyckens & Verspoor (1998) and Zwarts (2005) for a discussion of the English preposition *to*. Also, we must not forget that there are may prepositional patterns with other prepositions than *to* and *aan*, such as *for, at, of, ...* and *voor, naar, van, ...* We will however not elaborate on these.

[55] This theory is mainly situated in the beforementioned belief that each verb has a different meaning for each construction (i.e. 'multiple meaning approach' vs. 'single meaning approach'): "the various senses of dative verbs have separate representations that are linked to the syntactic constructions they can be used in" (Bernolet, Colleman et al. 2014, 113).

[56] Note, however, that this is the only kind of possessors the *to* pattern is compatible with according to Hovav & Levin (2008, 144).

[57] Note that, according to this approach, the distributional use of these constructions is thus not solely based on their semantics (Colleman & De Clerck 2009, 15), but on other factors such as discourse-pragmatic factors and verb-biases, as we will also discuss later (see 2.2.2.2.1.2 and 2.2.3).

apparently, the PC pattern can also express caused possession event schemas, both in English (Hovav & Levin 2008, 144) and Dutch (Colleman & De Clerck 2009, 38).

Additionally, Wierzbicka (1986, 164) (followed by e.g. Langacker 1991a, 359–360; Newman 1996, 61-68: Van Valin & La Polla 1997, 145ff; Taylor 2002, 427) states that the DOC highlights the effect of the action on the recipient, whereas the PC highlights the effect on the theme, which would explain why verbs of x such as *announce*, *reveal* are not compatible with the DO construction.

2.2.2.2.1.1   *The English and Dutch dative constructions*

Despite the high degree of similarity between the Dutch and English constructions and their verb-compatibility, the overlap is not complete. For example when comparing the way they 'cut' conceptual space: "[t]his means that there are no strict cross-linguistic equivalents, although many constructions do overlap substantially" (Levishina, Geeraerts et al. 2013, 21). For the Dutch and English dative constructions, this is reflected in, amongst other things, deviations in verb-compatibility[58]. Colleman (2012, 352, my translation) mentions for example the possibility of the Dutch DO construction to combine with two subsets of privative verbs where the indirect object refers to the source instead of the prospective possessor (due to their prefixes) and the impossibility of the Dutch DO construction to occur with verbs which imply creation e.g. *to paint someone a picture* (Haemers 2012, 36). For the prepositional constructions, there seem to be more differences (see especially Colleman & De Clerck 2009 and Colleman, De Clerck et al. 2010) for example: for the Dutch prepositional pattern, placement rules are not as restricted as in English and the *aan*-participant can easily be placed before the theme *e.g. ik geef aan Jan een book*, while in English this would be marked and indicate a strong focus (Haemers 2012, 36). Another important difference is that, in contrast to *to*, the *aan*-recipient cannot straightforwardly be labelled a 'recipient as goal' "as in its basic spatial sense, aan denotes a locative rather than an allative relation" (Colleman, De Clerck et al. 2010, 6), which inquires a relation of contact between giver and recipient. As a result, "*Aan* can generally not be used to mark the goal at the end of a spatio-temporal path. In allative contexts [...] *to* translates as *naar* in Dutch, not as *aan*" e.g. *Jack drives to London* versus *Jack rijdt naar/*aan Londen*. Also based on this contrast is that *to*-datives can only encode events where the *to*-participant is the target of the transfer, rather than the source; while *aan*-datives can encode events in both directions (Colleman & De Clerck 2009, 38).

The compatibility of our stimuli verbs with either or both constructions, in both English and Dutch, will be discussed later for each verb individually (see 3.1)

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[58] Since the core semantics of the verbs are supposed to constant across language equivalents, the difference presumably lies in the properties of the constructions (Levin 2008b, 2). We do follow this assumption, although moderately since ofcourse 'full' translation equivalents do not exist and there are so many other cross-lingual differences that could influence this.

2.2.2.2.1.2　　Verb bias

It has been observed that a lot of verbs don't behave as clear-cut in their compatibility as predicted on the basis of their, and the constructions' semantics. First of all, there are instances in actual language use where verbs are combined differently than expected on the grounds of their semantic properties (which are based on introspection) (e.g. Fellbaum, 2005; Bresnan 2007a; Bresnan, Cueni et al. 2007) for example as alternations in repetitive discourse (where the message is rephrased in the other pattern) even when officially only one constructions is allowed (Davidse 1996, 291; Bresnan & Nikitina 2009).

Especially Bresnan and colleagues (Bresnan, Cueni et al. 2007; Bresnan & Nikitina 2009) have advocated that the choice between "the two constructions are preferences, not categorical regularities" (Bresnan & Ford 2010, 172) and would better be labelled 'verb bias' or 'verb disposition' instead of 'compatibility'[59] used before.

Traditionally, preferences were identified from corpus research. Yet recently, Gries and Stefanowitsch (2004) have designed new analysis methods to quantify the degrees of attraction or repulsion between verbs and their complementary constructions: collostructional analysis. In fact, it can measure all kinds of relations in the lexical realisation of the construction: the 'collostruction strength' of a word and the construction, a word and a particular slot of the construction or between various lexemes used together in one construction (Colleman 2010, 279).

These methods build on notions from the Construction Grammar -including the idea that all grammatical structures are meaningful units and that lexicon and grammar coalesce (Mukherjee & Gries 2009, 36) (see 2.2.2.1.2 above)- from which they also adopted their terminology: *Collexemes* are the words which co-occur in the slots of the constructions, the constructions is then called a *collostruct*, of which the mutual attraction is then measured (Stefanowitsch & Gries 2003, 21). This constructional angle is combined with approaches from corpus linguistics (Gilquin 2010, 18), which also have some clear advantages: much more voluminous categories are examined, while taking into consideration the (immediate) context they occur in (Ozón 2009, 13) and controlling relevant factors. And, most importantly, they steer clear of purely intuitive judgments considering their combinatorial possibilities (Colleman 2009, 594). Instead, purely objective assumptions can be made and the combinatorial tendencies now are even quantifiable[60]. And, as seen before, several traditional assumptions have been challenged by this corpus-based method.

Even though collocational analysis exhibits these advantages too, these methods do differ: instead of taking in account all words that occur in approximation of a certain word or construction, only

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[59] A term denoting the "lexical information concerning the frequency with which verbs tend to participate in particular syntactic constructions"(Stallings, MacDonald et al. 1998, 396).

[60] See Willems (2013-14, 107ff) for a discussion of the (disputed) merit of corpus-based findings for grammatical description, as for example "On the one hand, corpus data are much richer than the speech production of a single speaker; on the other hand, what native speakers can produce on the basis of their language competence is richer than anything we will ever find in corpora" (2013-14, 109).

words in particular slots of the construction are filtered out.[61] This new kind of collocational analysis thus acknowledges all levels of linguistic structure (Stefanowitsch & Gries 2003, 214) as stated in the Construction Grammar (2.2.2.1), and is therefore preferential to collocational analyses.[62] Collostructional analysis is considered more fine-grained, primarily by also taking into account relevant syntactic aspects and relative frequencies, as we will see later.

One of their collostructional methods is the "(simple) collexeme analysis", a corpus-based method for computing the attraction between constructions and their possible lexical fillers in a particular slot. An extension of the method, as proposed by the authors themselves (Gries & Stefanowitsch 2004, 99), is the application of the technique to alternating pairs of functionally similar constructions, which is called "(multiple) distinctive collexeme analysis". The preferred contents of the same word slot are then investigated in two or more slightly different constructions. Similarly, the technique can be used to compare the same construction in different varieties of a language, which then shows the verbs more distinctive for either variety in that particular construction, possible reflecting interesting sociolinguistic differences.

One of the main assets of the collostructional analysis, in contrast to many other corpus-based methods, is that the absolute frequencies of the lemmata are normalized against the total frequencies of the words and the constructions (Gries & Wulff 2005, 188), thus offering more refined results than raw frequency counts.[63] In detail, the distinctive collexeme analysis is calculated as follows: from the corpus[64], four frequencies are retrieved and integrated in the calculations: the lemma frequency of the collexeme in construction A and B, and the frequencies of both constructions co-occurring with other words than the given collexeme (Gries & Stefanowitsch 2004, 102)[65]. For each word investigated, the observed frequencies are evaluated across their expected frequency with the Fisher exact test[66]. This step is then repeated for all verbs (or any type words occurring in the inspected slot) which occur in both constructions and comparing the observed with the expected frequencies, one can determine for which construction the lemma shows attraction (i.e. the combination occurs more than could be attributed to chance) (Colleman 2009, 597). For each construction individually, the verbs are ranked in terms of their distinctiveness i.e. their Fisher-exact value for either construction. These p-values thus explicitly mirror their collostruction strength, as illustrated in Figure 1, with smaller values indicating greater distinctiveness.[67]

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[61] Albeit, apparently, that collocates and collexemes often originate from the same semantic classes (Gilquin 2010, 249).

[62] In this particular field of linguistic research collostructional analysis is clearly superior to collocational analysis, for which multiple reasons are given in Stefanowitsch & Gries (2003, 214-217, 236 and Gries & Stefanowitsch (2004, 100) inter alia.

[63] For a discussion of how collostructional strength outperforms raw frequency counts, see Gries, Hampe et al. 2005.

[64] In principle, corpus-based methods are objective, yet some subjective decisions have to take place when determining what are true instances of each construction, and which are not (Gries & Stefanowitsch 2004, 102).

[65] Contrary to Gries & Stefanowitsch (2004), some other analyses take as the latter two frequencies, the total frequencies of both constructions (thus including the words which are investigated), e.g. in Wulff & Gries 2011, 72; Mukherjee & Gries 2009, 36.

[66] The Fisher exact test has been shown to be more valuable for this purpose than other distributional statistics. For a discussion, see e.g. Gries & Stefanowitsch (2004, 101) and Gries (2003, 217-19, 238-39)

[67] The p-values lie between 0 and 1 and should be below 0.05 to be significant (Mukherjee & Gries 2009, 36). Smaller values indicate higher distinctiveness, which is indicated by higher indexes (since most values are extremely low), eg. $xe^{-68} < ye^{-06}$. However, since the p-values are rather opaque to interpretation, they are often log-transformed to the basis of ten and multiplied with -1 (Wulff & Gries 2011, 72) (i.e. $-\log_{10}p$), resulting in more transparent values. Higher values now indicate greater attraction (Hampe 2011, 226),

DITRANSITIVE (N=1,035)		TO-DATIVE (N=1,919)	
Collexeme	*Distinctiveness*	*Collexeme*	*Distinctiveness*
give (461:146)	1.84E-120	bring (7:82)	1.47E-09
tell (128:2)	8.77E-58	play (1:37)	1.46E-06
show (49:15)	8.32E-12	take (12:63)	0.0002
offer (43:15)	9.95E-10	pass (2:29)	0.0002
cost (20:1)	9.71E-09	make (3:23)	0.0068
teach (15:1)	1.49E-06	sell (1:14)	0.0139
wish (9:1)	0.0005	do (10:40)	0.0151
ask (12:4)	0.0013	supply (1:12)	0.0291
promise (7:1)	0.0036	read (1:10)	0.0599
deny (8:3)	0.0122	hand (5:21)	0.0636
award (7:3)	0.0260	feed (1:9)	0.0852
grant (5:2)	0.0556	leave (6:20)	0.1397
cause (8:9)	0.2131	keep (1:7)	0.1682
drop (3:2)	0.2356	pay (13:34)	0.1809
charge (4:4)	0.2942	assign (3:8)	0.4243
get (20:32)	0.3493	set (2:6)	0.4267
allocate (4:5)	0.3920	write (4:9)	0.4993
send (64:113)	0.4022	cut (2:5)	0.5314
owe (6:9)	0.4369	lend (7:13)	0.5999
lose (2:3)	0.5724		

Figure 1   Collexemes attracted to either the ditransitive or prepositional dative (from Gries & Stefanowitsch 2004, 106)

The statistical analysis thus results in a list of (significant) collexemes ranked according to their values of attraction for each construction respectively, ready for comparison. This outcome illustrates the lexical divergence of both constructions and is said to have predictive power for both language production and comprehension.[68]

Again, these results shed light on the syntax-semantics interface (Mukherjee & Gries 2009, 36) as semantic and syntactic properties are said to be illustrated by the linguistic contexts of words (Gries & Stefanowitsch 2004, 100), hence the success of collocational analysis. Not only do such analyses offer the opportunity to a more refined syntactic description in terms of distributional load, they are generally considered to give objective information about its meaning as well (Stefanowitsch & Gries 2003, 21; Gilquin 2010, 193).[69] Specifically, the collexemes at the top of each scale, thus the most

lower values indicate neutrality or even repulsion. (The significance level is now 1.3, corresponding with a "probability of error of exactly or less than 5%"(Wulff & Gries 2011, 72), 2 with 0.01 and 3 with 0.001(Hampe 2011, 225). For extra transparency, some (e.g. (Mukherjee & Gries 2009, 36) convert their outcomes to positive versus negative values, reflecting their relation to the expected frequencies.

[68] They believe to be able to predict the conditional frequency/probability (Wulff & Gries 2011, 63) with even 94% certainty (Hampe 2011, 226). Although it is true that previous studies, on the basis of semantics (see above) and discourse-related regulations (see below), have been able to make fairly accurate predictions about which construction would be used when (up to a certainty of 80%: Gries 2003; Gries & Stefanowitsch 2004), the innovation of also including the lexical bias of verbs has proven to be a tremendous improvement. Particularly in contrast to raw frequency analyses, Collostructional Analysis has proven to be much more reliable as a predictor of language use: e.g. the study by Gries, Hampe et al. (2005) shows greater predictability in the field of language production (sentence-completion tasks) and comprehension (reading task).

[69] Analogously to lexical research: Stefanowitsch & Gries (2003, 215) state that combinatorial tendencies have been used to identify differences in meaning between near synonyms "since Berry-Rogghe (1974)".

preferred verbs for each construction, are often used for the semantic description of these constructions, since usage-based approaches to languages assume that speakers associate the patterns with some kind of general meaning after repeated encounters and productions.[70] The same has been said about construction patterns in language acquisition and the understanding of novel constructions (as seen before).

With help of Collostructional Analysis we can now establish quantitatively that preferences can differ in strength and the fact that the preferences are relative has several implications: first off, "the distinction between marginally alternating verbs and non-alternating verbs is a gradual one. From a usage-based perspective, it is to be expected that in this regard, different speakers will draw the line at different points" (Colleman 2009, 601). Secondly, this implies that there are combinations more prototypical than others[71], as for example illustrated in the hierarchies formulated by Stefanowitsch & Gries (2003, 240; the former for the ditransitive, the latter for the prepositional pattern). Below, we have the 'ditransitivity hierarchy' of Croft, Barddal et al. (2001) an implicational hierarchy of the semantic verb classes mentioned before (see 2.2.2.2), based on a crosslinguistic examination of English, Icelandic, German and Dutch.

> give >>> tell >>> show >> offer > allow > cost >> teach >> buy, wish > earn > ask
> put > bring > add > attach >> play > say >> limit > take > commit, confine
> → Give > send > throw

Note, however, that although some verbs are now proven to alternate freely between the constructions, preferences usually still point in the direction predicted by the semantic approach which should not be abandoned completely (e.g. Gries & Stefanowitsch 2004; Colleman 2009, 597; Wulff & Gries 2011; Haemers 2012, 86)[72]. Analogously, similar preferences are often found in semantic field and verbs are often still discussed in semantic categories, as e.g. *give* and other most distinctive collexemes of the ditransitive construction as verbs of transfer with direct contact between the agent and recipient (Wulff & Gries 2011, 74), either dative or allowing or anti-dative, or verbs of directed communication (Stefanowitsch & Gries 2003, 240); contrary to transfer verbs which presume distance and the transfer along a path for the most distinctive prepositional verbs (note the resemblance with the semantic description of the constructions, above), in addition of verbs of commercial transaction, which are drawn towards the prepositional pattern. These tendencies also broadly valid for Dutch (Colleman 2009; Haemers 2012).[73]

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[70] For further information, Colleman (2010, 279) recommends Langacker 2000; Goldberg, Casenhiser, and Sethuraman 2004, inter alia.

[71] In constructional approaches, it is assumed that such prototypical combinations are stronger cognitively entrenched in the mental constructicon than other item-specific combinations (Langacker 1987) "a well-entrenched concept is more firmly anchored in the language user's knowledge of the language" (Geeraerts 2010, 201) and is usually seen as a function of high frequency of usage (cf. also Bybee, 2006 Langacker, 2000; Colleman, 2009)." (Bernolet, Colleman et al. 2014, 124-125).

[72] Even though Wolk, Baumann et al. (2011, 2401) believe that "each dative verb has a specific idiosyncratic degree of preference in alternation choice; this preference is in general not predictable from semantics or morphology. A learner's acquisition of verb bias should thus be seen as direct instances of fundamentally experience-based learning", we will partly fall back on semantics as explanation for our verb's behaviour, as there are many cases where this seems to make sense.

[73] At the same time as verb disposition is (partly) governed by semantics, its preferences are conversely used for the semantic description of the constructions (Colleman 2009, 593).

It has also been found that these preferences are not only to be found statistically, in corpus data, but are also mental realities as "subjects have strong predictive capacities, preferring and anticipating the more probable of two alternative syntactic paraphrases" (Bresnan & Ford 2010, 201). This confirms the constructionalist assumption that speakers have verb-specific, even item-specific representations stored in their mental lexicon (Bernolet, Colleman et al. 2014, 114, 124ff; and see above)

Analogously, it is assumed that learners can (and should) learn these. In avoidance of making any infelicitous, un-nativelike combinations, that is.

2.2.2.2.1.2.1 The English and Dutch verb biases

Even though, again, we have established a high degree of similarity between the Dutch and English constructions, also in terms of verb disposition, as "semantically equivalent verbs from the two languages also often display the same behaviour in terms of constructional preferences" (Colleman, De Clerck et al. 2010, 9). However, this analogy cannot be taken for granted, as "this does not mean that on a microlevel any two verbs which may be considered as each other's closest translation equivalents will be found to display the same constructional behaviour" (Colleman 2009, 603), both in terms of the construction they prefer as in collostructional strength and/or cognitive entrenchment, as stated before by e.g. Verhagen (2007, 272-273) "The most regular constructions in one language certainly do not have to be the same as those in another. Thus, a complete grammatical system may differ considerably from another one even though they may both contain largely the same set of patterns".

We will discuss the behaviour of our stimuli verbs later, for each verb individually, besides a comparison of collostructional preferences in English and Dutch (see 3.1). It is not very surprising that learning and distinguishing these biases is very challenging for EFL learners, as we will see in the following paragraphs.

2.2.2.2.1.3 Learning the English dative alternation's verb bias

The acquisition of the dative alternation, just as in other constructions or patterned language structures, is mainly a process based on abstraction from the language input and the conceptualization into rules and structures concerning, amongst a lot of other information, its collostructional possibilities and preferences in terms of verb-complementation. Many have investigated and hypothesized about how this acquisition process takes place in L1 (e.g. Baker 1979; Pinker 1982; Bowerman 1983; Mazurkewich & White 1984; Fodor 1985; Clarck 1987; White 1987; Gropen, Pinker et al. 1989, 203; Conwell & Demuth 2007), with typically the subject of discussion being which of the constructions is acquired first[74] and in learning the distribution, how children defy, or

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[74] According to the Universal Grammar theory and its theory of markedness, the DO construction would be more difficult to learn and therefore learned later by both L1 and L2 learners (Stowell 1981; Le Compagnon 1984; Mazurkewich 1984a; Mazurkewich 1984b; Mazurkewich 1985 -vs. Hawkins (1987) poses a more finegrained, alternative acquisition pattern based on 'learner complexity'-vs.Gropen, Pinker et al. 1989, 212; Snyder & Stromswold 1997). Again, many studies have investigated this e.g. Mazurkewich & White 1984; Gropen, Pinker et al. 1989; Goldberg, Casenhiser et al. 2004; Conwell & Demuth 2007.

possibly recover from, overgeneralization[75] as the learning process would include quite a few learnability paradoxes[76]and it is said that "children maximise high frequency variants instead of matching the distribution in their input" (de Marneffe, Grimm et al. 2011, 27), and although there is no overall dominant pattern in the dative alternation, it can easily seem so. Yet still, it seems that L1 children can overcome all this by the age of 5 when they have presumably mastered the alternation (Carrow 1968; Fisher 1971).

We will not discuss the dative L1 acquisition process any further, as there are so many models and explanations available which would all definitely exceed the scope of this survey.

2.2.2.2.1.3.1   *Problems for L2 learners*

About the acquisition of the alternation in L2 mainly the same questions are asked, as it is highly unlikely that learners pick up on all semantic and discourse-related restrictions[77] (mentioned above and below: 2.2.3) from their limited language input, without, just as is assumed of L1 learners, falling back on overgeneralizations first[78]. As seen before, "it is challenging for second-language learners to learn the semantic and pragmatic functions of grammatical forms" (Frishkoff, Levin et al. 2008, 1665) and particularly the dative alternation has been mentioned as "one of the most problematic areas for both L1 and L2 learners; the problematic issue being, again, the verb disposition" (Baten & De Cuypere 2014, 19).

2.2.2.2.1.3.1.1   *Obstacle #1: verb bias*

We have seen before that verb bias is considered very important for nativelike idiomacy, as the constructions should be used "accurately, fluently, and in the appropriate contexts" (Frishkoff, Levin et al. 2008, 1665). This is expected to be extremely challenging for L2 learners, especially as for native speakers this is only known implicitly: typically, "speakers (and indeed, most linguists) are unaware of quantitative trends in the dative alternation" (Bresnan & Ford 2010, 170).

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[75] For L1 children as well, factors as verb and event semantics, verb morphology, input verb frequency, properties of theme and recipient (Snyder 2003) syntactic persistence has been shown to influence their choice between the constructions (de Marneffe, Grimm et al. 2011), although it is not clear how exactly these distributional rules are acquired and how children defy overgeneralization. Baker (1979) suggests that the entrenchment rules are based on positive evidence only and thus only used productively for verbs heard before (vs. Gropen, Pinker et al. 1989, 238); similarly, Fodor (1985) formulated nonproductive 'lexical redundancy rules'(Mazurkewich & White 1984; Pinker 1989) propose children slowly recover from overgeneralization as they learn the distribution based on the semantic, morphological and phonological restrictions mentioned before in their so-called 'criteria governed productivity hypothesis'. See for example Gropen, Pinker et al. (1989, 206ff). for a discussion of these models and their weaknesses.

[76] As mentioned in Gropen, Pinker et al. (1989, 204) these are mainly based on 3 assumptions: productivity, the lack of negative evidence and arbitrariness. For a discussion,see their publication.

[77] It has been shown that "L2 learners are influenced by the same determinants as L1 speakers, but to a lesser degree." (Jäschke & Plag 2015, 2)

[78] Many studies have investigated the L2 acquisition of the dative alternation, by EFL learners of various L1's (e.g. Spanish, German, Turkish, French, Japanese, Korean, Russian, ...), as for example Mazurkewich 1984a; Hawkins 1987; Oh & Zubizarreta 2006; Oh 2010; De Cuypere, De Coster et al. 2014, Jäschke & Plag 2015.

It has been suggested that verb biases are only learned as 'softer', guiding constraints by L2 learners (even when very strong for native speakers), or even not learned at all (Wolk, Baumann et al. 2011, 2401). Previous research[79], however, seems to contradict this assumption, although (again) a clear correlation with language proficiency is found. For example, eye tracking experiments by Wolk et al. (2011) have shown that proficient learners are indeed sensible to verb biases, although intermediate learners only when the PC dative is preferred. Similarly, Wulff and Gries (2011) have examined the behaviour of advanced Dutch and German EFL learners with DCA. Their results too suggested that advanced learners are indeed aware of the strongest biases as for 24 of their 26 verbs investigated, non-native preferences matched those of the native corpus (Wulff & Gries 2011, 74).

2.2.2.2.1.3.1.2 *Obstacle #2: transfer effects*

Another, quite logical obstacle is the influence from the mother tongue, especially between Dutch and English given the high degree of similarity in the dative alternation (in addition to their conceptual semi-equivalence and high degree of perceived transferability, see conceptual transfer 1.1.1.1). The main question here is, even though we have established before that the DOC and PC construction are separate constructions, whether these constructions are stored separately or together for both languages[80]. We will not tackle this question however, since transfer effects have been found either way. This is due to the fact that Dutch learners (presumably) equate the dative construction both on conceptual as constructional grounds, even though there is only a semi-equivalence as for example the probabilistic verbal behaviour does not always correspond in English and Dutch.

The main problem due to transfer would be overgeneralization, as "[e]ven though some L2 structures may seem very similar to structures that are already represented, it may be hard to tell whether these new structures can be used in the exact same way as their L1 equivalents if they have only been encountered in a few combinations" (Bernolet, Hartsuiker et al. 2013, 290) or undergeneralization according to their L1 (Mazurkewich 1984; White 1987, 1991). Similarly, transfer effects in the dative alternation have been found repeatedly in sentence rating tasks, for example by (Baten & De Cuypere 2014) in Dutch learners of German and by (De Cuypere, De Coster et al. 2014) (although it was a small, non-significant correlation) in Russian learners of English. Analogously, we try to replicate these tasks and results with Dutch learners of English.

Similarly to other kinds of transfer effects mentioned before, many state that these transfer effects can be overcome with increasing proficiency (e.g. Oh 2010; Wolk, Baumann et al. 2011). On the other hand, though, transfer effects were still found in full bilinguals (Meijer & Fox Tree, 2003; Schoonbaert, Hartsuiker, & Pickering, 2007; Woods & Zarqane 2012).

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[79] Other studies that have investigated the verb bias in L2 learners are for example (Mazurkewich & White 1984; Mazurkewich 1985; Hawkins 1987; Inagaki 1997; Frishkoff, Levin et al. 2008; Wolk, Baumann et al. 2011).

[80] As said before, we will not take sides in this discussion, as cross-linguistic effects have repeatedly been established (also) in the dative alternation. In addition to the studies mentioned above, we can refer to e.g. Meijer & Fox Tree 2003; Oh & Zubizarreta 2003; Oh & Zubizarreta 2006; Schoonbaert, Hartsuiker et al. 2007; García 2014. As an explanation, many of them refer to the Full Transfer/ Full Access Hypothesis of Schwartz and Sprouse (1996) (for a discussion, see e.g. Cabrera & Zubizarreta 2005b; García 2014.

2.2.2.2.1.3.1.3   *Obstacle #3: PC learner strategy*

In addition to, and possibly competing with language-specific transfer effects, infelicitous collostruction use can also originate in universal language learning strategies. For the dative alternation in particular, it seems that regardless of their mother tongue, many learners seem to prefer the PC construction in both language production (Chang 2004; Führer 2009) as language evaluation (Mazurkewich 1984a; Mazurkewich 1984b; Mazurkewich 1985; De Cuypere, De Coster et al. 2014, 196; Jäschke & Plag 2015)[81]. This is often explained with the Processability Theory of Pienemann (e.g. Pienemann (1998) which states that the PC construction is easier to process due to its "direct canonical mappings between thematic roles, grammatical functions and constituents" since the agent is in the first position, followed by the theme and recipient (which is the canonical order of their functional roles: subject followed by direct and indirect object) (Bever 1970; Mazurkewich 1984a; Mazurkewich 1985; Slobin 1985; Hawkins 1987; Pinker 1989; Baten & De Cuypere 2014, 32; De Cuypere, De Coster et al. 2014, 196).[82] Another, yet similar explanation is based on Rohdenburg`s complexity principle, which states that "explicitly marked phrases are preferred over zero-marked counterparts in cognitively complex environments" (Rohdenburg 1996) cf. that the recipient in the PC construction is marked explicitly by the preposition, while in the DOC he is not. Both theories thus advocate that the preferences are based on its increased transparency.

Again, proficiency is assumed to counter this strategy, as observed in e.g. (Wolk, Baumann et al. 2011; Baten 2013)[83].

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[81] In fact, similar preferences have also been found in L1 learners e.g. Gropen, Pinker et al. 1989; Conwell & Demuth 2007.

[82] They also propose that the PC construction is acquired before the DOC due to its processability, which was also suggested above.

[83] This (and the other observations that nativelike construction use comes with proficiency) is for example predicted in Ullman's bilingual declarative/procedural model (Ullman 2001), although we cannot elaborate on that here. For a discussion, see e.g. Bernolet, Hartsuiker et al. (2013, 290).

2.2.2.3   Hypothesis: factors in collostructional transfer

Based on the beforementioned obstacles in the L2 acquisition of the dative alternation (and constructions and their collostructional preferences in general), we have hypothesized that there are several factors at play here. Specifically, we will investigate some factors which we assume play a role in collostructional transfer, similarly to how they influenced conceptual and collocational transfer (see 1.1.1.1 and 1.2.2.1). First and foremost, the influence from the linguistic proficiency of the L2 learner is presumed to be pivotal. The other factors are item-related: similarity of structures, both psychological, in meaning and in form; and finally, prototypicality which partly originates in frequency.

2.2.2.3.1   Level of language proficiency

The thesis that low levels of language proficiency can result in inadequate language use, especially concerning linguistic peculiarities as collostructional preferences, is very straightforward. We have mentioned many times before that such knowledge poses a challenge for language learners, and that nativelike idiomacy of such details might never be reached. This because, in the conceptual internalization process, L2 learners have to abstract linguistic input into new conceptual knowledge while possibly being influenced by their mother tongue (see 1.1.1.1 and 1.2.1), which both correlate with language level:

> L2 users' level of cognitive maturity affects their ability to comprehend the concepts expressed through language (Weist, 2002) and to abstract important conceptual, lexicosemantic, and morphosyntactic information from the new words they encounter (e.g., Weinert, 2004).
>
> (Bagherian 2012, 185)

The extent of transfer effects in their divergent language use is assumed to be related to linguistic proficiency in particular, as many studies have found a correlation between level of language proficiency and (in)correct collostruction use due to transfer[84] (e.g. Juffs 2000; Cabrera & Zubizarreta 2003; White 2003; Cabrera & Zubizarreta 2005a, 34 and specifically in respect to the dative alteration e.g. Wolk, Baumann et al. 2011; De Cuypere, De Coster et al. 2014, 202) The results of the latter study, for example, suggested that "less proficient speakers are more strongly affected by L1 generic construction-biases" (Wolk, Baumann et al. 2011, 2404) in their choice between the two semi-equivalent dative constructions.

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[84] Similarly, linguistic proficiency has been mentioned as an important factor in all kinds of cross-linguistic influences: conceptual transfer (e.g. Bagherian 2012, 152), constructional transfer (e.g. Cabrera & Zubizarreta 2003; 2005a; Perpiñán & Montrul 2006, 146 vs. Brooks 2013, 46), collocational transfer (Palmer 1993; Yamashita & Jiang 2010; Wolter & Gyllstad 2011; Hendriksen 2013, 36; contrary to e.g. Phoocharoensil 2003; Koya 2003; Boonyasaquan 2006.

2.2.2.3.1.1 *Similarity of structures*

In accordance with the previously mentioned notions of 'psychological typology', 'perceived transferability' and congruence (see 1.1.1 and 1.2.2.1), it is plausible that the similarity of the structures plays a role in its sensitivity for transfer effects between English and Dutch.

2.2.2.3.1.1.1 *Psychological similarity: perceived linguistic distance*

Parallel to the role of similarity in collocational transfer (see 1.2.2.1), both typological and perceived linguistic distance play an important role here. Both in terms of formal characteristics and historical background, English and Dutch are closely related[85]. Generally, this has resulted in a high degree of perceived similarity between these languages, as Dutch learners often describe English as a language which is rather easy to learn.

As we have seen before (see 1.1.1) though, this 'perceived transferability' and its facilitation effect can be deceiving and often results in unwarranted transfer strategies based on analogy and congruence[86]. Note, however, that previous studies have not only observed direct proof, i.e. the creation of erroneous collostructional combinations, either by analogy or under- and overuse of certain constructions in certain environments, but also indirect proof: Wang and Shaw (Wang & Shaw 2008, 218) for example, mention the relation between high perceived language similarity (English and Swedish versus English and Chinese) and increased confidence in the creation of word combinations. The other group, conversely, showed more caution and lower variety, yet also fewer errors. Their L1 thus did not only influence their specific creations, but also their learning and performing strategies in the creation of patterned language.

Although we have not tested the perceived similarity between Dutch and English for each participant individually, we will follow the assumption that Dutch speakers in general identify strongly with the English language. Accordingly, we expect to find transfer effects in this study.

2.2.2.3.1.1.2 *Formal similarity*

Analogous to the importance of formal (i.e. phonological) overlap in the transferability of individual words, e.g. (Bernolet, Hartsuiker et al. 2012)(see eg. the cognate facilitation effect) many studies have found a correlation between formal similarity of constructions and sensibility for transfer effects.

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[85] Although we realize that linguistic distance is very vague notion, we do follow the assumption that when placed on a continuum, English and Dutch would be situated quite close, based on their formal similarity (o.a. number of shared cognates, of shared syntactic characteristics (De Bot 1992, 9) and their linguistic lineage: as late diverted West-Germanic languages.

[86] For the purpose of this study, we solely focus on its role in the creation of patterned language. In many other contexts as well, though, small linguistic distance has caused a facilitation effect (eg. syntactic priming in e.g. Ahukanna et al 1981; Bouvy 2000; De Angelis & Selinker 2001; Bernolet, Hartsuiker et al. 2007, 942; etc).

Word order, in particular, has shown to be an important factor in syntactic priming: structures with the same word order cause a cross-linguistic priming effect - in contrast with structures which only share meaning (Bernolet, Hartsuiker et al. 2007, 931) - and word order itself can be primed too (Hartsuiker, Kolk et al. 1999; Hartsuiker & Westenberg 2000). Similar results have been found in a construction sorting task (Manzanares & López 2008, 203.[87] In this respect, the dative alternation would thus be a prime candidate for cross-linguistic influence, since, as we will see in the description of the English and Dutch dative alternation, both the PC and DOC construction are highly similar in terms of form, word order and grammatical restraints.

Additionally, formal similarity has shown to play a role in the selection of a certain construction in the case of alternations. When given the choice between two semantically equal, but formally different constructions, learners typically choose the one which is formally similar to a construction in his/her source language (De Bot 1992, 19). This can result in the under/overuse of certain patterns, as observed in contexts of code switching (Giesbers 1989) and simultaneous interpreting (e.g. Polman 1993; Chernov 2004):

> There is quite some data suggesting that in simultaneous interpretation the interpreters tend to use grammatical structures that are similar in the two languages, even if that leads to production problems.
>
> (De Bot 2000, 76)

Given the formal correspondence of both the DOC and PC construction in English and Dutch, such transfer effects will only be visible with verbs which only allow one construction in Dutch, but both in English, of which the Dutch-inspired construction will be overused. And, conversely, verbs which take only one construction in English, but both in Dutch, will portray an underuse of the true English constructions since this now has competition from the alternative one, formed by analogy to their mother tongue.

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[87] These results have lead to the assumption that similar constructions of both languages are only stored together if they share the word order (e.g. Loebell & Bock 2003; Hartsuiker, Pickering et al. 2004; Bernolet, Hartsuiker et al. 2007, 931). Given the fact that the dative DOC and PC construction have the same word order in English and Dutch, these are presumed to share their mental representation. True consensus about this matter, however, has not been reached. Both visions are feasable, as explained in Bernolet, Hartsuiker et al. (2007, 931): "It is possible that bilingual syntactic representations abstract from the details of word order, so that otherwise similar structures that merely differ in word order across languages have a shared representation. However, it is also possible that word order is an integral part of syntactic representations, so that structures that differ in word order across languages are represented separately for each language.". We will not discuss this matter any further, as for the purpose of this study it is not needed to chose sides, since regardless of how the constructions are stored, formal similarity has shown to stimulate linguistic transfer.

2.2.2.3.1.1.3   *Semantic similarity*

Partly as a result of the high degree of formal and semantic overlap between the dative constructions in English and Dutch, in combination with its high degree of 'perceived transferability', the facilitation effect due to language transfer in the dative alternation will be significant, in both learning, producing and processing[88]. This builds on the idea that constructions can "share important combinatorial and functional properties across languages, whether they are syntactically similar or not" (Verhagen 2007, 273). For some learners this might even amount to perceived identicality, after which they will equate the constructions completely.

However, in terms of semantics, functionality and distributional properties, the Dutch and English counterparts are only partly congruent (see e.g. 2.2.2.2.1.2.1), and some of the specifics of the constructions and its collostructional patterns should be learned explicitly instead of being transferred from the mother tongue, as simply transferring semantic and/or distributional properties from the Dutch to the Englih verb might result in a violation of verb semantics and combinatorial constraints, as we have discussed before (e.g. 2.2.2.1.2).

There are several studies, however, claiming that learners do not simply tap from their mother tongue knowledge when learning parallel patterns in English (e.g. Gries & Wulff 2005, 189). They claim that learners have created separate representations for the English patterns,

> because what are syntactically similar constructions in both languages differ in a variety of idiosyncratic and inextricably related semantico-syntactic properties, and such properties are what lies at the heart of the notion of construction and what is reflected in the distributional patterns
>
> (Gries & Wulff 2005, 199).

Similarly, our goal is to investigate whether our Flemish learners do transfer the combinatorial and distributional possibilities of the constructions and its verb-filled collostructional counterparts from Dutch, or not.

2.2.2.3.1.2   *Prototypicality*

The final factor which can influence transfer effects is found in frequency, and its associated prototypicality of a combination. To begin with, prototypical, frequently used patterns are easier to learn than infrequent, intransparant patterns (Frishkoff, Levin et al. 2008) (see for example the importance in collocations: 1.2.2.1), especially when these are highly frequent in the L1 too (Andersen 1984).

On the other hand it has been observed that highly frequent structures in L1 are more likely to be transferred into the source language (Andersen 1983; Paquot 2008). Simultaneously, even the degree of prototypicality is transferred: statistical preferences in terms of frequency of use are copied in the L2 (Selinker 1969; Paquot 2008). The problem for language learners, however, is that not all verbs

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[88] Facilitation effects due to congruence have for example often been found in collocational research as well, e.g. Yamashita & Jiang 2010; Wolter & Gyllstad 2011.

typical for a certain construction in Dutch, will automatically be highly frequent in the English equivalent too. Once again, language transfer might result in divergent collostruction use.

The relative frequency with which a verb is used in a particular pattern can be established with collostructional analysis, as was discussed before (see 2.2.2.2.1.2). In our experiment we will try to establish whether knowledge concerning frequency of use is transferred by our learners as well.

2.2.3 Discourse-pragmatic motivation

Finally, idiomatic choices, especially in the case of alternations, can depend on context-specific aspects, as "there are often many linguistic variables that determine the appropriate use of a grammatical form, and these variables may combine to determine when it is most appropriate to use a particular form in a particular context." (Frishkoff, Levin et al. 2008, 1665). For the dative alternation too, many discourse-pragmatic variables have been established to influence the choice between the DOC or PC construction, competing with and sometimes overruling the semantic and verb-biased motivations. In fact, these interacting and sometimes even competing variables are assumed to be important cross-lingually, and are observed to influence the alternation in both English and Dutch (Colleman 2006; Baten & De Cuypere 2014, 22). In the following table these are presented as characteristics of the recipient/indirect object in comparison to the theme/direct object[89].

Table 3   Discourse-pragmatic factors

	In favor of DOC	In favor of PC
Information structure discourse accessibility 'given before new principle' 'links-rechts-principe'	known	unknown/new information
Heaviness 'principle of end weight' 'complexiteitsprincipe'	short/simple/light	long/complex/heavy
Animacy	animate	Inanimate
Pronominality	pronominal constituents	nominal constituents
Conceptual accessibility (! Of the theme)	more accessible, concrete	less accessible, abstract
Definiteness	definite	indefinite
Number	singular	plural
Person		

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[89] Our information is mainly based on Frishkoff, Levin et al. 2008; Hovav & Levin 2008, 156ff; Colleman 2009, 601ff; Ozón 2009, 145ff; Wolk, Baumann et al. 2011, 2401; Bresnan & Ford 2010, 172; Haemers 2012, 25ff; De Cuypere, De Coster et al. 2014, 187; Bernolet, Colleman et al. 2014, 122. For more information, see for example Givón 1984; Bock & Warren 1985; Bresnan, Cueni et al. 2007; Bresnan & Nikitina 2009; etc.

Structural parallelism or persistence	when heard before	when heard before
Focus placement 'principle of end focus'	If no focus on IO	If focus on IO

Based on these 'soft constraints' it can even be predicted which construction has preference in language production, reading time, and fluency of production (Bresnan, Cueni, Nikitina, & Baayen, 2007; Tily et al. 2009; Bresnan & Ford, 2010)[90], and conversely, "ungrammaticality can be overridden by manipulating the pronominality, definiteness, and information structure of the referring expressions (Green 1971, Kuno & Takami 1993, Polinsky 1998, Bresnan 2007a,b, Bresnan et al. 2007a)" (Bresnan & Ford 2010, 171). Predictions have even been made quantitatively, and according to Bresnan and associates (;Bresnan & Nikitina, 2003; Bresnan, et al., 2005; Bresnan & Hay, 2006) they have even reached an accuracy rate of 94% (in spoken English).

We will however only elaborate on those factors that are relevant for our test, which will be discussed in section 3.1.

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[90] As for example in their 'quantitative harmonic alignment' : "the existence of a statistical pattern in which, all else being equal, animate, definite, pronominal, discourse-accessible, and shorter arguments tend to precede inanimate, indefinite, nonpronominal, less discourse-accessible, or longer arguments in both of the dative constructions (2a,b). This pattern has been found in dative constructions in American, Australian, New Zealand, and British varieties of English and in both written and spoken modalities (Collins 1995, Thompson 1995, Bresnan et al. 2007a, Bresnan & Hay 2008, Theijssen 2008, Grimm & Bresnan 2009)" (Bresnan & Ford 2010) P181.

Chapter 3   Methodology

With the objective of testing whether Flemish learners of English transfer their collostructional preferences concerning the dative alternation, we selected eight dative verbs portraying different collostructional behaviour in English and Dutch (or versus the PC learner strategy) and elicited the behaviour of 40 participants in two experiments. Their constructional choices were investigated in both a productive test, an elicited imitation task (see 3.2.1), and a introspective test, an intuitive judgment test (see 3.2.2), of which the results will be discussed in the following chapter. Although we wanted to investigate specific transfer effects in the use of these constructions, practical concerns prevented us to compare their preferences against a native English control group. Instead, we decided to adopt previous analyses of the particular verbs in native corpora of English, which can operate as a benchmark compared to the linguistic behaviour of our EFL learners. For each of our verbs, the collostructional analysis had also already been conducted for native Dutch language use, which could then be linked to the possible anomalous construction use by the EFL learners in our experiments. In section 3.1 all the verbs investigated will be discussed, and their collostructional behaviour in English and Dutch will be compared. Investigating the influence of linguistic proficiency as the main factor on their (possible) transfer and learner strategies, our participants were divided into two experimental groups according to lower and higher English proficiency. Our participants are discussed in section 3.3.

3.1   Stimuli

There are many verbs allowing the dative alternation in both Dutch and English. However, since we want to examine potential transfer in collostructional preferences, only verbs portraying different preferences in these languages would show unequivocal indications of (negative) transfer. Therefore we selected four verbs which allow the alternation in Dutch, but only one of the two constructions in English; and two verbs which allow the alternation in both languages yet portray opposite collostructional tendencies. These verbs' collostructional behaviour will be discussed in the following paragraphs, with the verbs in Table 4 as examples of the former category, and those in Table 5 of the latter. Additionally, we included two verbs which might illustrate a learner strategy of using the PC-construction instead of the native English (and Dutch) DOC-preference (see Table 6). Our discussion is mainly based on semantic properties of both the verbs and the constructions (see 2.2.2.2), and

adopting data from previous Collostructional Analyses (see 2.2.2.2.1.2) by other researchers, we learn which verbs show strong(er) preferences for either of the constructions in both English and Dutch.

Table 4   Verbs compatible with only one construction in English

English		Dutch	Preference in English (+preposition)	Preference in Dutch (+preposition)
1.	Announce	bekend maken	PC (to)	DOC/PC
2.	Explain	uitleggen	PC (to)	DOC/PC
3.	Cost	kosten	DOC	DOC/PC
4.	Deny	ontzeggen	DOC	DOC/PC

Table 5   Verbs with opposite constructional preferences in English and Dutch

English		Dutch	Preference in English (+preposition)	Preference in Dutch (+preposition)
5.	Ask	vragen	DOC	PC (aan)
6.	Award	toekennen	DOC	PC (aan)

Table 6   Verbs with opposite constructional preferences by EFL-learners

English		Dutch	Preference in English (+preposition)	Preference in Dutch (+preposition)	Preference by EFL-learners
7.	Grant	toestaan, toelaten	DOC	DOC	PC (to)
8.	Send	sturen, zenden	DOC	DOC	PC (to)

For each verb pair, as well as for four filler verbs, two English sentences were constructed: one version in accordance with the preferred construction in English and one showing the uncommon pattern for English, which is then the preferred Dutch construction or an indication of a learner strategy. This amounted to 24 test sentences which were used in the elicited imitation task (see 4.2), which were also used in the twelve exercises which comprise the intuitive judgment test (see 4.3).

These sentences were presented to the participants in randomized order, preventing any (extra) effect by syntactic priming: although we expect the participants to be influenced by what they have heard and uttered before, repetitive occurrences of a particular pattern could cause them to use only that pattern instead of what they would spontaneously use.

Constructing the sentences in which these verbs were inspected, there are several aspects to pay attention to. As seen before (see 2.2.3), there are multiple discourse-pragmatic features of the verb's participants which can influence the choice for either construction, such as animacy, definiteness, pronominality, heaviness (relative length), complexity and givenness.

Avoiding any interference of these factors, we filled the participant slots (direct and indirect object) of our constructions only with participants of the same type, length and complexity. Practically, this means that in none of the sentences, participants were combined which differed in number of words, in complexity or in definiteness. As for the type of participants, we were attentive not to combine pronouns with full lexical phrases, since this has proven to influence judgments by

both learners and native speakers (Hawkins 1987, 42)[91]. In e.g. Le Compagnon's study (1984), pronominal indirect objects seemed to trigger DO-structures by French EFL learners, while lexical noun phrases conversely mainly occurred in PC-constructions. This might be a learner strategy, or simply caused by the fact that pronouns are shorter than most lexical noun phrases.

The only factor we could not balance is animacy, since typically, the "recipient" is animate while the "given" is not. We did keep this asymmetry consistent in all sentences.

A factor we did not have to take into consideration is the information status, since all of the participants are considered new when occurring without context (and are equally definite).

With respect to the order of the participants, we only constructed sentences in which the participants appear in their canonical order: V-IO-DO (verb-recipient-given) and V-DO-PO (verb-given-recipient) for the DO- and PC-construction respectively. This implies that there were no sentences portraying passivisation, relativisation, questioning, constituents occurring in between the two participants, extraposition of a participant (topicalization or stranding), nor shifted datives, where the PC- recipient occurs postverbally, hence in the same order as a DO-construction (following (Ozón 2009, 116; de Marneffe, Grimm et al. 2011, 32 and Bernolet, Colleman et al. 2014, 117). Markedness thus only occurred when we tried to elicit unusual constructional behaviour. Also, avoiding unnecessary formal disparity from the Dutch version, we did not allow prepositional stranding in the PP-constructions.

Also weighing in semantic aspects, we excluded any idiomatic phrases, since these are usually learned holistically, including the verb, and thus do not require a choice between one of the constructions (Ozón 2009, 127). However, taking into account that there is no clear-cut boundary between idioms and collostructional patterns, we filled in random participants in the participant slots, this way maximizing the verb effects in our results. For similar reasons, we did not include any "'light' (uses of) verbs" (Ozón 2009, 130) in our dataset, such as *give, do, make* or *have.* These verbs are often used in a very general meaning, thus not contributing substantial meaning to the construction. Since our main goal is to investigate the role of the verb in the choice for one of either constructions, such verbs were avoided[92].

Other aspects which could influence our results negatively are insufficient syntactic and lexical knowledge of our participants. The lexical items were therefore kept simple and sentences rather short. Also, we did not use participants with poor knowledge of English, even the least proficient participants reached a B1 level of proficiency (see 3.3). To minimize the chance of memory deficiency, which would lead to unworkable results, we tried to select concrete and imaginable themes – as

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[91] According to Mazurkewich (1985, 21), DO-structures in which the indirect object is a full noun are less readily accepted than their pronominalised counterparts.

[92] Note, however, that some of these verbs do show substantial biases in favor of one of the constructions. *Give*, for example, shows strong preferences for DO–complements (Gries & Stefanowitsch 2004; 106), also by EFL learners (Wulff & Gries 2011, p76). This is partly due to the frequent use of this verb in idiomatic constructions (which are (semi-)fixed in their construction use eg. *give x the cold shoulder*, *give x the creeps*, ...), which is typical for these 'light verbs' (Poutsma 1926; Jespersen 1927).

opposed to abstract ones – since these have been shown to be remembered more easily (Paivio 1991)[93], also particularly in the recollection of dative sentences (Bock & Warren 1985).

3.1.1.1 Verbs compatible with only the PC in English

Although English has many ditransitive verbs allowing both a DO and a PC construction as their complement, there are some verbs which are (almost) exclusively compatible with the PC construction in English. If the participants would allow these English verbs in both constructional patterns, this could indicate the transfer of collostructional preferences from their first to their second language.

Such verbs included in our data set/stimuli list are *announce* (bekend maken) and *explain* (uitleggen). In the following paragraphs, we will conduct a cross-lingual comparison of the verbs' formal and semantic properties and their behaviour in the dative alternation.

3.1.1.1.1 Announce

As seen before (see footnote 37 p. 19), we can distinguish between two formal verb classes in English: native and Latinate verbs, the latter traditionally believed to be only occurring in the PC construction. One of these is the communication verb *announce*, which in dative sentences takes the preposition *to* (e.g. Mazurkewich & White 1984, 279; Wierzbicka 1988, 373-374; Ozón 2009, 110; Colleman 2009, 595; Haemers 2012, 37). Other versions are not possible, even though *announce* can be used interchangeably with verbs which do allow the alternation, eg. *tell*:

Table 7   Example sentences with *announce*

PC with to	*Tomorrow, Tom will announce the news to his father.*
DO	**Tomorrow, Tom will announce his father the news.*
vs. tell	
PC	*Tomorrow, Tom will tell the news to his father*
DO	*Tomorrow, Tom will tell his father the news*

Wierzbicka, however, seeks an explanation elsewhere, since many Latinate verbs do occur in both constructions[94]. For her, the reason why *announce* cannot alternate between the DO and PC construction has to do with its semantics: it focuses on the object of the communication, on what is announced (i.e. the theme participant), which is considered incompatible with the meaning of ditransitive (i.e. DO) constructions (Wierzbicka 1988, 373-374). These generally require "a specifiable effect of action on the target [i.e. the recipient, beneficiary or addressee (Wierzbicka 1986, 164)], and

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[93] According to (Bernolet, Colleman et al. 2014, 120), these are also "easier to read aloud (Gerhand & Barry, 2000), to recognize (Schwanenflügel, Hamishfeger, & Stowe, 1988) and to remember (Paivio, 1991) than abstract words. When presented out of context, sentences describing concrete scenes are also easier to read (Schwanenflügel & Shoben, 1983) and to comprehend (Belmore, Yates, Bellack, Jones, & Rosenquist, 1982) than sentences describing abstract ones".

[94] For example *assign, promise, allocate, bequeath*, as stated in (Colleman 2009, 595).

is incompatible with the presence of a component which either implies the relative unimportance of the target or stresses the special importance of the patient"(Ozón 2009, 70-71), of which the first constraint is violated here.[95] The announced message is said to be affected more – by being made public - than the addressee.[96] Analogously, the (near-)synonymous verb *reveal* cannot take the DO construction either.

Nonetheless, recent corpus-based research has shown that the rules are not as clear-cut as traditionally thought: sometimes *announce* can occur with the DOC construction, provided that the recipient is a pronoun. Combinations like *We announced him the good news* thus are possible, challenging traditional assumptions. Such complications were however avoided in the test, since we do not use any pronominal indirect objects.

The Dutch counterpart *bekend maken* seems to be less restricted in its combinatorial possibilities. *Bekend maken* is allowed to take the alternation (Haemers 2012, 37), thus occurs regularly in both constructions. Some, however, claim that it shows a preference for the PC construal, which could be due to the fact that the semantics of this verb, as in English, focus on the effect of the action on the theme participant, as is highlighted in the PC construction. Colleman (2009, 602-603) conducted a Distinctive Collexeme Analysis[97] in which *bekend maken* showed substantial preference for the *aan*-dative (i.e. PC)[98]. These constraints are, however, definitely not as strong as in English.

3.1.1.1.2   Explain

Another Latinate verb we want to investigate, thus nonalternating, is a verb of communicative transfer: *explain* (Mazurkewich & White 1984, 279; Hawkins 1987, 31-42; Ozón 2009, 110; Haemers 2012, 23, 37; García 2014). Consequently, it is only compatible with the PC construction in which it takes the preposition *to.* Again, some claim that pronominal target participants are the exception to this rule, while others do not (García 2014).*:*

Table 8   Example sentences with *explain*

PC with to	*I explained <u>the story</u> to <u>my brother</u>, but he didn't understand.*
DO	**I explained <u>my brother</u> <u>the story</u>, but he didn't understand.*
Pronominal pattern	*[?]I explained <u>him</u> <u>the story</u>, but he didn't understand.*

Yet, as said before, the discussion does not concern our test since we do not use pronominal target participants.

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[95] One can, for instance, easily elide the target/recipient of the message.

[96] Others sharing this perspective are Langacker 1991b, 359-360; Newman 1996, 61-68; Van Valin & La Polla 1997, 145ff; Taylor 2002, 427; inter alia.

[97] Conducted on a 9-million-word sample from the newspaper component of the CONDIV corpus of written Dutch (Grondelaers, Deygers et al. 2000)

[98] Information from the table in (Colleman 2009, 602): bekendmaken 'make public, announce' (0:12), with a p-value of 7.23818E-07, listing it the 28th most distinctive verb for the PC dative.

Apparently, this is a constraint which not all learners are aware of. Le Compagnon (1984), for example, noticed in her research of French speakers of English that they prefer pronominal indirect objects in the DO construction versus PC constructions for lexical themes. This caused them to overgeneralize the DO construction whenever pronominal themes occurred: producing DO sentences with normally PC-restricted verb, which also led to ungrammatical instances with *explain* Eg. *The teacher explained the boy the rule repeatedly.* Others learners are aware, eg. when comparing grammaticality judgments by Spanish EFL learners, Garcia (2014) saw that *explain* was much more readily accepted in the PC than in the DOC construction.

Considering the possible dative strategies used by learners of English, their (un)awareness might be correlated with the level of acquisition or maybe influence from their mother tongue. In our experiment, we will see whether Flemish learners of English respect this constraint as well, or rather, if they allow the alternation as is possible for its Dutch counterpart *uitleggen* (Haemers 2012, 37) and if it is related to their level of proficiency.

As said before, the Dutch translation *uitleggen* generally occurs in both constructions, although it is said to show a preference for the aan-dative (Colleman 2010, 290; Haemers 2012, 57, 75). They legitimize this preference, again, by pointing to the semantics: in the event of explaining something, the recipient is affected profoundly, yet still acts independently concerning his co-participation in the event. This matches the general meaning expressed by the DO construction, namely the interaction between the three participants (rather than focussing on the theme in the PC construction) (Haemers 2012, 76). Yet again, these tendencies are nothing compared to the strong restrictions in English.

3.1.1.2 Verbs compatible with only the DOC in English

We have also selected some verbs portraying analogue, yet opposite behaviour: allowing only the DO in English, contrary to their Dutch counterparts allowing both. If these verbs would also be used with a PC complement by our Flemish participants, this would straightforwardly indicate that their Dutch collostructional preferences can be transferred into their English combinatorial performance.

Such verbs included in our experiments are *cost* (kosten) and *deny* (ontzeggen). In the following paragraphs, we will conduct a cross-lingual comparison of the verbs' formal and semantic properties and their behaviour in the dative alternation.

3.1.1.2.1 Cost

The first verb we want to investigate in this category, i.e. traditionally regarded to be only compatible with the DO construction, is *cost* (e.g. Oehrle 1976, 142; Goldsmith 1980, 436ff; Mazurkewich & White 1984, 265, 280; Pinker 1989, 111; Hovav & Levin 2008, 144; Colleman, De Clerck et al. 2010, 14; Haemers 2012, 23; García 2014).

Table 9   Example sentences with *cost*

DO	*This problem with the roof will cost my grandfather 20 euros.*
PC with to	**This problem with the roof will cost 20 euros to my grandfather.*

The reason for this constraint is again found in its semantics. Mazurkewich and White (1984, 265-266), acknowledged by Hovav & Levin 2008, 144, inter alia) offer the following explanation: the event of *costing something to someone* is not a typical transitive one, rather a reversal of transfer or event of dispossession: the subject causes the indirect object to lose something. Therefore, the indirect object (i.e. the prior possessor) is no longer a true recipient or goal, which usually becomes possessor of the direct object in a dative action, but rather becomes the source of the transfer. Nonetheless, it still implies the idea of possession, which is crucial for dative events. They claim that the dative alternation is restricted to events where the semantic role of the indirect object also implies possession in addition to being the end-point of the transfer, thus to events with goals in to-datives and beneficiaries in for-datives or their ditransitive counterparts (Stowell 1981). In cases where the indirect object solely implies possession, as in this case, only the DO construction is permitted (Oehrle 1976; Stowell 1981). Similar reasons govern the DO-preference with *refuse* and *deny*, other verbs of 'future not having' (Colleman & De Clerck 2009, 36; see also e.g. Pinker 1989, 111; Krifka 2004), although the dispossession here is due to the prevention of possession, instead of losing possession. This would be responsible for the freer combinatorial behaviour versus the (semi-)absolute preference with the DO for *cost*.

Gries and Stefanowitsch (2004, 106-107) have employed another, yet similar, semantic depiction, labelling *cost* as the only verb denoting commercial transaction which does not show preference for the PC construction. They clarify this deviation by pointing to the actual action: unlike the other verbs in this category, *to cost something to someone* does not involve the motion of goods nor currency, which would be typically encoded in a PC construction.

Also, in contrast with for example *announce* -which we've seen before-, the indirect object is definitely affected by the event of *costing*, since this causes the possession to become history. While minor affect would harmonize better with the meaning of the prepositional pattern, this provides extra motivation for its combination with the ditransitive construction (Colleman 2009, 604).

However, more recent research claims that its combinatorial properties are not as deterministic as traditionally thought. Although it is rare, some have observed that it is possible to use *cost* in the prepositional pattern as well (Bresnan, Cueni et al. 2007, 78; Colleman & De Clerck 2009, 36; Ozón 2009, 109). One might claim, however, that these exceptions are possibly induced by pragmatic reasons. The two instances encountered in the British National Corpus by Colleman and De Clerk (2009, 36)[99], for example, both highlighted the amount of money it cost to somebody, which could have resulted in the fronting of the theme and conversely, the linear reduction of the indirect object. The general preference is still for the DO construction, which was shown in the DCA by Stefanowitsch and Gries (Stefanowitsch & Gries 2003, 229) and (Gries & Stefanowitsch 2004, 106)[100] and agreed upon by Colleman & De Clerck (2009, 36) , inter alia.

These semi-rules might explain the diversity sometimes encountered in learner English. The Spanish EFL learners in Garcia's investigation (García 2014), for example, unanimously indicated constructions with the DO construction to be possible in combination with *cost*, but did not always reject sentences in which it was combined with the prepositional pattern. In language production however, the DO construction seems to triumph.[101] Also in the analysis of non-native English by Wulff and Gries (Wulff & Gries 2011)[102], *cost* showed a very distinctive preference for the ditransitive construction. This seems to indicate that learners are usually aware of the restrictions, just not recognize the strictness (yet).

Again, other regulations are seen in Dutch. Its counterpart *kosten* can be used more freely in the dative alternation. It regularly occurs in both the DOC and PC construction (with the preposition *aan*) (e.g. Colleman & De Clerck 2009, 34; Colleman, De Clerck et al. 2010, 8, 14; Colleman 2010, 293), however is more attracted to the former (Colleman 2009, 604; Haemers 2012, 57) [103]. In Dutch as well, this is the general tendency for verbs of 'future not having', including antidative verbs (i.e. verbs of refusal) and privative verbs (i.e. verbs of causing to lose: *cost*).

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[99] In the 100 million words corpus, only 2 of the 6725 occurrences of *cost* were with the PP construction:

1. *The 10 projects were agreed under the £98 million a year Aid and Trade Provision (ATP), and **cost** more than £150 million to the British taxpayer. [BNC J2P429]*
2. *Children **cost** twice as much to education there than they did in the outer London Boroughs, or indeed out in the styx as we are here in Oxfordshire. [BNC KRK206]*

[100] In both studies, based on the British component of the *International Corpus of English* (ICE-GB), *cost* was one of the top six most distinctive collexemes for the DO construction.

[101] From a total of 15 participants, all indicated the DO to be grammatical, but half of them also allowed the prepositional pattern. However, none of them used the PC construction spontaneously in the guided composition task.

[102] They performed a DCA on the Dutch and German sub-corpora from the *International Corpus of Learners English* (ICLE), in which *cost* was the fourth most distinctive verb of the ditransitive construction with a $-\log_{10}$p-value of 1,57. The distinctiveness is only slightly less than the 8.01 $-\log_{10}$p and found in the entire *International Corpus of English* (ICE-GB) by Gries and Stefanowitsch (2004, 106).

[103] 5th strongest collexeme for ditransitive construction.

In terms of semantics, this divergent behaviour in English and Dutch is due to the fact that apparently, the English PC construction requires the indirect object to be the target of the transaction, while the Dutch prepositional pattern (with *aan*) can encode transfer in both directions (Colleman, De Clerck et al. 2010, 16)[104]. In the experiment it will thus be tested whether the learners are aware of this deviation, or not. Realizing that there are stricter restrictions in English might prove a difficulty for Flemish EFL learners.

3.1.1.2.2   Deny

A very similar verb of 'future not having' is deny – *ontzeggen*, which is also often said to be only compatible with the DO construction (e.g. Mazurkewich & White 1984, 280; Wierzbicka 1988, 382-383; Pinker 1989, 111; Goldberg 1992, 69; Panther 1997; Krifka 2004; 5; Haemers 2012, 24).

Table 10   Example sentences with *deny*

DO	*Obviously, they denied the prisoner the cigarette.*
PC with to	**Obviously, they denied the cigarette to the prisoner.*

This is again justifiable when we look at the semantic load of this verb, just like Goldberg did using the notions of caused motion and caused reception (see 2.2.2.2). When someone is denied something, the possession of the theme is prevented. Consequentially, the indirect object is not the end-point of the transfer, since the transfer itself is blocked, which results in a very undynamic event. As mentioned before, these semantics are not compatible with those of the PC construction. Once again, only prior possession is implied, which calls for the ditransitive construction. (Oehrle 1976; Stowell 1981). One can also see *deny* as a true ditransitive action, only the negated version of the typical ditransitive construction: causing X **not** to receive Y (Gries & Stefanowitsch 2004, 106), which is one of the basic subsenses distinguished by Goldberg. The same reasoning applies for other verbs of refusal, such as *refuse*. Additionally, semantic aspects concerning the affectedness of the recipient can apply here too: the DO construction focuses on the interaction between three participants in which especially the recipient/goal is affected, instead of focussing on the theme in the PC construction. (Haemers 2012)p76. With *deny*, the indirect object is indeed affected profoundly by the action of the agent, who decides on the future possession of the indirect object, without affecting the direct object (i.e. the theme)(Wierzbicka 1986, 161).

Although the semantic account is very promising, more recent corpus based research now claims that *deny* does take the dative alternation, thus that the prepositional pattern is possible after all (Bresnan, Cueni et al. 2007, 78; Bresnan & Nikitina 2009; Ozón 2009, 109; Colleman, De Clerck et al. 2010, 9). Its preferences for the DO however, are undisputed (e.g. Stefanowitsch & Gries 2003, 229; Gries & Stefanowitsch 2004, 106; Colleman 2009, 549; Colleman & De Clerck 2009, 36; Bresnan & Ford

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[104] The semantic and functional differences between the English and Dutch prepositional datives was discussed thoroughly in section 2.2.2.2.1.1.

2010, 178; Colleman, De Clerck et al. 2010, 9). The PC construction is, in this case, more marked and might triggered by pragmatic or semantic factors, for example when the theme was highlighted or when the target constituent was very long. Colleman (2009, 597) states that "*when checked against sufficiently large text corpora, many of the introspection-based observations put forward in the literature on the dative and other alternations will be found to be overstated*"[105]. This does not mean however, that in reality these restrictions are not respected: the prepositional combinations are rare. In an attempt to analyse only the unmarked usage as triggered by the verb, we avoided any extra influence by neutralizing our sentences.

Similar preferences are seen with its Dutch counterpart *ontzeggen* (Colleman & De Clerck 2009, 24; Colleman, De Clerck et al. 2010, 10), which is often explained with the same semantic motivations and are also found in other semantically related verbs such as *weigeren, onthouden, verhinderen, beletten, verbieden, …* (Colleman 2006; 2009, 604). These preferences are not as restricted as in English, though, as the verb is still allowed in both patterns.

3.1.1.3 Verbs with opposite collostructional preferences in English and Dutch: DOC in English, PC in Dutch

As seen before, due to the similar semantics of the dative alternations, the majority of English-Dutch verb pairs show similar collostructional behaviour (Colleman 2009, 603). Nevertheless, there are some exceptions. Translations, being semi-synonymous, do not necessarily portray the same constructional preferences.

We have selected two verb pairs preferring a DO-complement in English versus a PC-complement in Dutch: *ask* (vragen) and *award* (toekennen). If our participants use these verbs with complements deviant from what is expected in English, again transfer from their mother tongue could be established. In the following paragraphs, we will conduct a cross-lingual comparison of the verbs' formal and semantic properties and their behaviour in the dative alternation.

3.1.1.3.1 Ask

The first verb we want to discuss in this category is *ask* and its Dutch translation *vragen.* These verbs of communication occur in the dative alternation in English and Dutch (Ozón 2009, 109), but seem to portray different collostructional behaviour in both languages.

In English, ask can be grammatically combined with both the DO and PC construction:

Table 11   Example sentences with *ask*

DO	*It will ask <u>the football team</u> <u>an extra effort</u> if they want to win this year.*
PC with *of*	*It will ask <u>an extra effort</u> of <u>the football team</u> if they want to win this year.*

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[105] For specific analyses, see Manning (2003) and Stefanowitsch (2003) inter alia.

Notably, previous collostructional analysis has revealed that *ask* shows a strong preference for the DO construction (Stefanowitsch & Gries 2003, 240: Gries & Stefanowitsch 2004, 106)[106], which can again be justified when looking at the semantics. Since it encodes an event of communication which causes metaphorical transfer, *asking something of* someone, it matches the assumed constructional meaning of the ditransitive construction which would be 'cause to receive'/caused possession (Gries & Stefanowitsch 2004, 105; Hovav & Levin 2008, 134). Actually, all verb of 'directed communication' which Stefanowitsch and Gries encountered in their analysis of the British Corpus showed this a preference for the DO construction, which supports this claim (Stefanowitsch & Gries 2003, 240). In Dutch as well, many verbs of communication prefer the DO construction (Colleman 2010, 290; Haemers 2012, 77.

Its collostructional behaviour thus again supports the semantic approach. In the other cases, thus the minority, it is used with the prepositional construction. Not with the usual to-dative however, but with the preposition *of* (Colleman & De Clerck 2009, 7; Colleman, De Clerck et al. 2010, 15). This would be related to the linearity of the event, analogously to why *cost* was not allowed with the *to*-dative: again, when *asking something of someone*, the indirect object is no longer a true recipient or goal, but becomes the source of the transfer. Instead of receiving the direct object, he/she becomes a prior possessor while the speaker will become the end-point of the transaction (Colleman & De Clerck 2009, 36). We have seen before (see 3.1.1.2.1: cost) that dative actions with such semantics cannot be encoded by the *to*-construction. In addition to the DO construction, *ask* therefore takes special prepositional complements: the *of*-construction or *for*-construction (Colleman 2009, 604): *to ask something of someone and to ask someone for something. However,* keeping in mind maximal formal similarity with the Dutch counterparts, we only investigated the *of*-version in our test: to ask+target+theme versus to ask theme+of+target.

Without alleging anything about whether learners also understand these semantic restrictions, it has been shown that they seem to have the same preference, as was investigated by (Wulff & Gries 2011, 76). In their analysis as well, *ask* was one of the strongest collexemes in the ditransitive construction[107]. These results are somewhat remarkable, since they studied Dutch and German learner English and these languages portray the opposite behaviour.

Specifically, the Dutch equivalent *vragen* shows a rather strong inclination towards the PC dative, as was established in collostructional analyses by Colleman and students (Colleman 2010, 284; Haemers 2012, 57,75)[108]. In contrast to the English restriction, in Dutch the regular *aan*-dative is allowed. This is due to the fact that the Dutch *aan*-dative has a broader semantic range (as seen in section 2.2.2.2.1.1): unlike the English dative *to*-pattern, the *aan*-pattern can encode both the

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[106] In both studies, based on the British component of the *International Corpus of English* (ICE-GB), *ask* was one of the most distinctive collexemes for the DO construction.

[107] They performed a DCA on the Dutch and German sub-corpora from the *International Corpus of Learners English* (ICLE), in which *ask* was the 8th most distinctive verb of the ditransitive construction with a $-\log_{10}$p-value of 0.63.

[108] Confirming Colleman's results (2010), in which *vragen* was one of the top 10 collexemes for the prepositional pattern, one of his students, Haemers (2012), found that it was actually the strongest PC-collexeme in her analysis of spoken language. In a previous study however, Colleman found that *vragen* was unbiased for either construction (2009, 604), although this contrast may be related to the fact that we did not allow pronominal participants, while in natural language ask is combined with pronominal recipients and abstract themes (*a question, a favour*), which would result in a preference for the DOC construction (see 2.2.3).

startpoint or the endpoint of the transfer, which means that it can be used for transactions in both directions (Colleman & De Clerck 2009, 34). The reversed linearity in the transfer here, from the indirect object to the subject, thus does not pose a problem. However, its prepositional behaviour is not completely standard, since it can take additional patterns: it can also be combined with the preposition *van,* or even with *bij* (Colleman & De Clerck 2009, 7).

The preference for the *aan*-dative is explained, in e.g. Haemers (2012, 77) by referring to the hypothesis of Van Belle and Langendonck (Van Belle & Langendonck 1996): events in which the recipiens is not particularly involved, as in *vragen* (as the objective is to obtain the theme, and not to affect the recipiens) will typically take the PC construction in which the recipiens is placed in a peripheral position.

3.1.1.3.2 Award

Award-toekennen is a verb that takes the dative alternation in both English and Dutch. Its collostructional preferences, however, are reversed. Such verbs are rather uncommon, but are very helpful since they can give clear indications of whether transfer from the native language takes place or not.

In English, *award* occurs frequently in both the DO and PC construction (Mazurkewich & White 1984, 278; Levin 2008a, 11), both in spoken and in written language (Ozón 2009, 109). In terms of the latinate/native distinction this is unexpected, since it has *award* has a non-native stem and is anticipated to occur only in the prepositional pattern (Mazurkewich & White 1984, 278). Nevertheless, corpus research has proven that it does take the alternation, just like some other polysyllabic verbs of non-native origin which (unexpectedly) do take the both constructions, such as *promise, offer, allow, …* (Hawkins 1987, 31).

Table 12   Example sentences with *award*

DO	*The science committee awarded <u>my brother</u> <u>the trophy.</u>*
PC with *to*	*The science committee awarded <u>the trophy</u> to <u>my brother</u>.*

Previous collostructional analyses however have established that *award* shows a remarkable preference for the DO construction (Stefanowitsch & Gries 2003, 229; Gries & Stefanowitsch 2004, 106)[109], which can be justified by investigating the semantics of both the verb and the construction. Following Goldberg's (1995) argumentation, verbs like *award*, which do not induce a spatial transfer but rather a metaphorical, possessional transfer of a theme towards a participant, denote events that are semantically very similar to true ditransitive events of caused possession[110]. Therefore, the DO construction is preferred to the PC construction's meaning of caused-motion.

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[109] In both analyses, *award* was the one of the most distinctive collexeme for the DO construction in their analysis of the British component of the International corpus of English (ICE-GB): respectively 11th and 8th.

[110] Recapitulating the argumentation in Goldberg (1995), Colleman and De Clerck (2009, 16) explain that these verbs denote so-called transfer-caused-motion constructions, which are considered metaphorical extensions of the caused-motion construction

The Dutch verb *toekennen* is compatible with both constructions as well, but despite its similar semantics shows preference for the PC construction (Colleman 2009, 602; Colleman 2010, 290; Haemers 2012, 57). Just like in English, these semantics can be covered by the prepositional pattern, but its preference, according to Colleman (2010, 290), originate from the semantics of the participants it is combined with. *Toekennen*, and similar verbs, typically take relative abstract themes (as e.g. permits, honours, benefis, ...) resulting in a preference for the PC construction.

3.1.1.4 Verbs with opposite collostructional preferences by EFL-learners: DOC in English and Dutch, PC by learners

Finally, we included two verbs which portray strong preferences for the DO construction in both English and Dutch, however have been encountered being used more with PC-complements by Dutch and German EFL-learners (Wulff & Gries 2011, 76))[111]. To test whether this learner strategy is also used by our Flemish learners of English, we included two such verbs: *grant* (toestaan, toelaten) and *send* (sturen, zenden).

3.1.1.4.1 Grant

Following the verb-sensitive approach (as seen in section 2.2.2.2), *grant,* an indigenous English verb of giving, quite exemplary encodes an event of caused possession (possibly situated in the near future). Just like other give-type verbs, it is incompatible with the semantics of the caused motion construction (Hovav & Levin 2008; Levin 2008a (133), 2008b; Colleman & De Clerck 2009, 15). However, this does not imply that *grant* cannot occur with the PC construction, since *to*'s semantics are extensive enough to include recipients (Hovav & Levin 2008, 142-144) (as seen in section 2.2.2.2). Consequently, *grant* is widely accepted to take the dative alternation (Mazurkewich & White 1984, 279; Ozón 2009, 109).

Table 13   Example sentences with *grant*

DO	*Because she asked nicely, the teacher granted <u>my sister</u> <u>the point.</u>*
PC with *to*	*?Because she asked nicely, the teacher granted <u>the point</u> to <u>my sister</u>.*

Corpus-based research however, has established that *grant* portrays strong preferences for the ditransitive pattern (Gries & Stefanowitsch 2004, 106). The semantics of the verb i.e. the caused motion/possession distinction (Colleman & De Clerck 2009, 15) cannot be held responsible for this behaviour. Rather, explanations are sought in information structure and other pragmatic factors,

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(i.e. the prototypical PC construction) based on the metaphor of 'transfer of ownership as physical transfer'. One of the arguments for its similarity, is that "*it involves agent, theme and recipient arguments rather than the cause, theme and goal arguments of the non-metaphorical caused-motion construction*"(Colleman & De Clerck 2009, 16). Consequently, a combination with the PC construction is possible, yet less preferable than the DO construction which is semantically more similar to the event denoted here (i.e. caused possession).

[111] Wulf and Gries (2011) compared construction-specific verb preferences by advanced EFL-learners, using data from the German and Dutch sub-corpora of the *International Corpus of Learner Enlgish* (ICLE), with the preferences by native (British) speakers, as analyzed by Gries and Stefanowitsch(Gries & Stefanowitsch 2004).

since again, in events of *granting*, and similar actions, the possessional transfer typically involves more abstract themes, such as rights, permits, favours, benefits, etc (Colleman 2010, 290). We have seen before (see section 2.2.3) that abstract themes usually precede more concrete ones, which might explain the inclination of this verb towards the DO construction.

Another explanation can be found in Wierzbicka's analysis (1986, 164; 1988, 373-374): similarly to what we have discussed with *deny*, the inclination can be explained in terms of affectedness. In events of *allowing*, the recipient is influenced greatly by the decision of the agent, without affecting the theme participant. This is compatible with the semantics of the DO construction, which focuses on the interaction between three participants in which especially the recipient/goal/target is affected (Haemers 2012, 76), in a lesser extent to the semantics of the PC construction.

In Dutch, *toestaan, toelaten* and *verlenen* are some of the available translations for *grant.* Nevertheless, we have not taken them in consideration since we feel that these verbs are better equivalents for the English near-synonym *allow*[112]*,* which we have not investigated either. Rather, we selected the Dutch verb *gunnen* as a more fitting counterpart for *grant.*

Semantically, these verbs are all classified as verbs of giving, thus all encoding an event of possessional transfer. Surprisingly, however, these verbs do not seem to exhibit the same collostructional preferences. In contrast to *verlenen*, which is attracted to the PC construction (Colleman 2009, 602; 2010, 284-285; Haemers 2012, 56 –vs. to the DOC construction according to Colleman 2006), *toelaten, toestaan* and *gunnen,* just like in English, prefer the DO construction (Colleman 2006, 674; 2009, 605). Although these verbs are semi-synonymous, we believe that there is a fundamental difference in their meaning. In contrast to *verlenen, toelaten, toestaan*, which are events of *allowing something to someone* i.e. making it possible for someone to receive something, the semantics of *gunnen* are more similar to the actual event of giving. In order to distinguish between these verbs and their (sometimes) conflicting preferences, we exclusively used *grant* in a way that symbolizes the actual giving of something to someone (as would be translated by *gunnen,* and certainly not by *verlenen).* As such, no influence from its PC preference takes place (see Table 13 above).

Although *grant* and *gunnen* typically take the DO construction, Dutch (and German) EFL learners have shown to prefer the PC construction very solidly (Wulff & Gries 2011, 76)[113]. By selecting a more concrete theme, we avoided any effects due to its abstractness, since we did not want to force them in using the DOC construction. Rather, we want to measure the influence of the verb exclusively, which might be competing with their learner strategy of using the PC construction.

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[112] The semantically very similar verb *allow* takes the dative alternation as well, even though it is polysyllabic and of non-native origin (Hawkins 1987, 31).

[113] Of all verbs investigated in their Dutch and German EFL corpus, *grant* showed the strongest distinctiveness for the prepositional dative.

3.1.1.4.2 Send

The last alternating verb (Mazurkewich & White 1984, 263, 279; Bresnan, Cueni et al. 2007, 78; Levin 2008a, 1; Colleman & De Clerck 2009, 7; Ozón 2009, 111; Baten & De Cuypere 2014, 11) we investigated is *send*, a native verb of physical transfer, which, likewise *grant*, show preference for the DO construction (Ozón 2009, 111). The inclination found by Gries and Stefanowitsch (2004, 106-107) is not very strong though, whereupon they describe *send* as one of the verbs alternating most freely between both construction. Its Dutch counterparts *zenden* and *sturen* haven been noted to show this bias as well, even stronger. *Sturen* (also *opsturen*) has shown a larger preference than *zenden* (Colleman 2006; Haemers 2012, 55-57).

Contrary to the English version, the Dutch dative alternation of *zenden* and *sturen* is not prototypical: besides the usual *aan*-version, their prepositional variant can also be constructed with the preposition *naar* (i.e. *to, towards*) (Schermer-Vermeer 1991; Van Belle & Langendonck 1996; Abraham 2006; Colleman & De Clerck 2009, 8; Colleman, De Clerck et al. 2010, 4).

Table 14 Example sentences with *send*

DO	*We've sent <u>our neighbour</u> <u>the invitation</u>, I hope that he will come.*
PC with *to*	[?]*We've sent <u>the invitation</u> to <u>our neighbour</u>, I hope that he will come.*
DO	*We stuurden <u>onze buurman</u> <u>een uitnodiging</u>.*
PC with *aan*	*We stuurden <u>een uitnodiging</u> aan <u>onze buurman</u>.*
PC with *naar*	*We stuurden <u>een uitnodiging</u> naar <u>onze buurman</u>.*

One reason for the bias towards DO datives with *sturen* (and many other verbs of *sending*) is the fact that it can only occur with the *aan*-dative in events where letters are sent by post (Colleman & De Clerck 2009, 27)[114]. Also, the *aan*-construction is compatible with animate goals only (a constraint the *naar*- and *to*- version are not restricted to) (Colleman, De Clerck et al. 2010, 12). Offering our participants the chance to use both dative patterns, we constructed a sentence in which both the DO structure and the *aan*- and *naar*- prepositional patterns are possible in theory, although the *naar*-version sounds highly marked.

Since the act of *sending* implies a change in location, it is often described as a chief example of the caused motion meaning, alike the category of *throw*-types and unlike the *give*-types (Hovav & Levin 2008, 135-143; Levin 2008a, 13). This verb-event schema association, however, is usually associated with the prepositional dative[115], in which the *to*-morpheme highlights the path which is followed cognitively (Colleman, De Clerck et al. 2010, 5). Still, its occurrence with the DO construction is not unexpected, since, in English, -according to the verb-sensitive approach- *send* can be associated with both the caused motion or caused possession meaning, of which the latter can be encoded by both

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[114] As was described in Colleman and De Clercq (2009, 27-28), in Colleman's previous corpus research (Colleman 2006), *sturen aan* only occurred in combination with a letter (*een brief*) or a specific type (*een kaart*), words referring to the content of the letter sent (*een uitnodiging)* or other forms of written communication (*email, fax*). The DO construction's combinatorial potential is wider.

[115] In distinguishing these meanings, the originally spatial semantics of the preposition *to* play a substantial role (as was seen in section 2.2.2.2).

dative patterns (Jackendoff 1990; Croft, Barddal et al. 2001; Levin 2004; Hovav & Levin 2008, 129, 138). Occasionally, the change in location can result in change of possessor, which entails the caused possession schema, which then can be expressed with the DO construction. The DO construction thus is possible too, when verb is used in its possessional sense.

Yet, these claims cannot account for its inclination towards the DO dative. A possible explanation can be found in the "ditransitivity hierarchy" of Croft and colleagues, an implicational hierarchy based on the semantic verb classes distinguished in the verb-sensitive approach. They state that if there are constraints on the distribution of the ditransitive or the prepositional dative construction, the construction will be associated with the higher or lower end of the hierarchy, respectively (Croft, Barddal et al. 2001, 2).[116] Distinguishing verbs of *giving*, *sending* and *throwing*, the ditransitive hierarchy follows the said order. This implies that verbs of *sending* will be more readily combined with the DO construction than verbs of the *throw*-type, which has to do with its encoding of manner. *Throw*-actions often express the manner or instrument, while in *send*-actions this is also possible but has semantic repercussions: sentences with *send*-verbs in which manner is not lexicalized (unlike *post, ship*), will focus more on the result and the intended possessor (Levin 2008a, 13).

The choice between the constructions is also related to the properties of the specific situation, as for example the animacy of the direct and indirect object (Levin 2008b, 17). Inanimate goals, such as locations, will never be perceived as the intended possessor, rather a location and are therefore only compatible with the prepositional pattern (i.e. caused motion meaning). For animate goals, by contrast, both argument structures are possible (i.e. caused motion and caused possession meaning), although the DO construction is often preferred because typically the recipient is known and animate, but the theme is inanimate, which means that the recipient will become its possessor[117], and it would be illogical to treat him/her simply as a spatial goal (Green 1974, 103; Oehrle 1976; Hovav & Levin 2008, 144; Levin 2008b, 17) (vs. the combination of an animate theme and recipient is restricted to the caused motion meaning).

As with all other stimuli, the indirect object in our sentences is concrete, known and animate, which would thus typically be combined with the ditransitive construction. Observations of learner corpora, however, have shown that despite the preference for the DO construction in Dutch and English, the prepositional pattern is preferred very strongly (Wulff & Gries 2011, 75)[118]. Our goal is to determine whether for our participants too, the learner strategy is stronger than the natural tendencies in their native and the target language.

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[116] Based on an examination of English, Icelandic, German and Dutch, Croft and colleagues (Croft, Barddal et al. 2001) constructed a Ditransitivity Hierarchy in which *give* precedes *send*, which precedes *throw*.

[117] As mentioned in (Colleman & De Clerck 2009, 10), the possessive relationship is symbolized by the juxtaposition of two nominals following the verb.

[118] In their analysis of the Dutch and German ICLE sub-corpora, Wulff and Gries found that *send* was the strongest collexeme for the caused motion construction (i.e. the PC pattern) in EFL English, which they say would be expected considering the semantics of *send* (contrary to native English behaviour). They also state that this preference could be due to the learner's tendency to form strong generalizations (Wulff & Gries 2011, 74-75).

3.1.1.5   Fillers

Four verbs, displaying the dative alternation in both languages, were selected as fillers: *sell* (verkopen), *write* (schrijven), *tell* (vertellen) and *teach* (leren). The first two verbs show preference for the PC-construction in both English and Dutch, the latter two for the DO-construction. Since these similar preferences cannot indicate any transfer, these verbs were purely used as distractors. For an overview of all stimulus sentences, see Appendix A.

3.2   Experiments

As was recommended by Hawkins (1987, 30)[119], we decided to test the linguistic behaviour of our participants in two separate tests, each addressing a different aspect of linguistic knowledge. In an elicited imitation task, they drew from their (semi-)productive abilities, while an intuitive judgment task investigated their explicit, prescriptive knowledge when processing and comparing sentences. From a comparison of both the tests' results we expect a more complete image of their collostructional preferences.

3.2.1   Elicited imitation task

Although the best measure of implicit language knowledge would be a free language production task (Erlam 2006, 466)[120], our specific subject of investigation did not allow us, keeping in mind the many variables which could cloud the influence of verb bias in the dative alternation (2.2.3). So instead, we opted for the method of "elicited imitation", an interactive task instigating both receptive and productive skills concerning our 24 stimuli sentences (see Appendix A).

In the traditional set-up three assignments are given per stimulus: first the subjects are provided with an aural stimulus of a certain linguistic structure. They are asked to listen carefully since they will have to (attempt to) repeat the sentence later on, as accurately as possible. After a certain time-span, in which often a distracting exercise is conducted, the subjects have to repeat the sentence as was heard before (Christensen, Hendrickson et al. 2010, 233). However, the objective of this experiment is not that the sentences are repeated literally per se. Rather, the subjects are presumed to have formed a mental representation of what is said in their working memory (Hsieh & Lee 2014, 595) and to reconstruct the sentence from there. However, since the subjects listened actively, they will have paid attention to both meaning and syntax (Van Moere, Xu et al. 2012), which they might reproduce later (Swain 1985), unless this tendency of syntactic persistence is overruled by other factors (as we will see later).

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[119] He claims that one cannot straightforwardly investigate linguistic behaviour in one task, since one cannot say with certainty that its result concern the linguistic knowledge of the participants rather than an influence of the test material, method or modality.
[120] This because the testing of implicit knowledge would require unplanned, meaning-focused language use (Ellis 1994; Schmidt 1994) in addition to the context, interaction and surroundings different from natural language use (McNamara 1996).

The basic premise on which this method builds, is that in the mental representation of the sentence, "no linguistic information can be encoded which exceeds the subject's knowledge of that language" (Christensen, Hendrickson et al. 2010, 233). Thus, drawing on his/her individual knowledge of that language (i.e. internal grammar), the subject will reconstruct the previous sentence "online" (Erlam 2006). Although the output usually is very similar to the given sentence, any deviations can be very informative on the subject's internal language system.

For example, the subject's performance is assumed to decrease when the sentences become longer or more complex. Accordingly, performances will mirror the subject's proficiency. The inability to repeat the sentence as a whole might indicate that the participant is not proficient enough to process the sentence. It is however unclear whether poor imitation results from the incompetence to process the utterance aurally or semantically. Also, it very difficult to determine whether such problems originate in poor comprehension or production (Lee 1970; Naiman 1974; Vinther 2002, 62; Hsieh & Lee 2014, 595), as was also mentioned by Smith and Candlin (1994, 76): "*In a sense, then, elicited imitation is as much a test of reception or comprehension as it is a test of production*". Subjects might, for example, understand the sentence perfectly but fail to reproduce them due to a lack of fluency or self-confidence[121]. Results thus have to be handled with caution since not all deviations will stem from proficiency problems.

More transparent indications are e.g. the omission of words, which might indicate gaps in his/her lexicon or grammar. For example, when the subject changes the grammatical pattern of the sentence by eluding a constituent, this might be because he/she doesn't know the particular construction yet. On the other hand, eluded constituents can also be a result of the participants reducing the sentence to a summarized version, e.g. because that constituent is less prominent or even predictable[122]. Another possibility is of course that the participants' short term memory has simply failed them. Finally, the output can be changed slightly in word order or sentence structure, which is particularly interesting when investigating grammatical patterns. A modification or extension can typically show influence from the participant's native language, which is what we're interested in.

Shedding light on the internal language system of the participants, this particular technique has been used since the 1960's, traditionally testing the learner's knowledge of specific grammatical structures (Erlam 2006, 467). It has mainly been used as a proficiency assessment of first and second language acquisition[123](Christensen, Hendrickson et al. 2010, 233) and neuropsychological research (Vinther 2002, 54), although modified versions for specialized research – such as ours – have been proven to be helpful too.

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[121] In an attempt to reduce performance stress, the subjects were allowed to complete the test in isolation and take as much time as needed. Each step of the experiment was conducted self-paced and, although discouraged, they had the possibility to listen to the sentence repeatedly (in case of severe distraction, etc).

[122] In child language for example, a first person subject is sometimes eluded because they assume that we know who the subject is.

[123] As was discussed in Hsieh and Lee, the technique was first used to investigate the development of (native) child language (e.g. (Fraser, Bellugi et al. 1963; Ervin-Tripp 1964) and was later extended to the field of second and foreign language acquisition research, measuring primarily morphosyntactic and oral proficiency (Naiman 1974; Vinther 2002; Hsieh & Lee 2014, 595). Its reliability to test language proficiency has been confirmed by e.g. Epstein (1978), who found that the results of an EI test of English as L2 for Danish school children correlated positively with the language teachher's assessment of these children's language proficiency.

Christensen et al (Christensen, Hendrickson et al. 2010, 233) summarize the superiority of EI over alternative tasks in the assessment of L2 oral proficiency, such as free language production, interview, imitation and completion tasks, as is confirmed by (inter alia) Van Moere et al (2012). They also support the technique's validity in their comparison to simple repetition tests:

> Elicited imitation tasks have a more psycholinguistic construct which is not currently in fashion in language testing, despite strong theoretical rationale and superior reliability.
>
> (Van Moere, Xu et al. 2012)

However, some doubts on the technique have arisen since the 1990's, mainly concerning the phase of mental de- and encoding. Especially short or simple test items and short time latencies might cause simple rote repetition, which would result in verbatim repetition instead of actual cognitive processing and reconstruction of the sentences (Christensen, Hendrickson et al. 2010, 233; Hsieh & Lee 2014, 595).

Fortunately, this can be controlled by selecting stimuli which are not too short, which would cause parrot-like repetition; nor too long, which could lead to poor reproduction. Also, they have to be complex enough, to not be processed as a whole but rather to be abstracted and stored in the short-term memory as such (Smith & Candlin 1994, 76). After all, we want them to reconstruct the meaning rather than the exact words. Since it has not been determined which length is ideal[124], we followed Bley-Vroman and Chaudron's advice (1994, 253) and constructed sentences of diverse lengths and complexities. Also, in the assignment we mentioned that although the objective was to regenerate the sentences, the repetitions did not have to be verbatim and they were allowed to use their own words and/or structures if necessary. [125]

Since the objective is to test their language performance rather than their verbal short-term memory capacity, the subjects were distracted deliberately in the time span between the reception and production of the sentences. Possible methods are sorting tasks, questions of general knowledge, true/false judgement tasks, etc. We designed a counting task, in which the participants had to count aloud, following a video which demonstrated the enumeration, up or down, of an interval of 5 to 6 seconds.

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[124] As mentioned in (Hsieh & Lee 2014, 598-599) "the effectiveness of length control can vary as a function of participants' age, cognitive ability, and language proficiency as well as structural complexity of the stimulus, among other factors (Vinther 2002; Erlam 2006)

[125] We did ask them to focus on the verb and the target participant, since without these the results would be invaluable for our research. Unfortunately, these were still eluded occasionally.

Also, stimulating the participants to focus on meaning rather than the exact words, a recent innovation is to include pictures in the assignments (Van Moere, Xu et al. 2012)[126]. Consequently, we maximized the distraction by not only asking our participants to count aloud, but also to choose between pictures of who the sentence was about (i.e. stimulus-depiction matching task) before repeating the sentence. Accordingly, in the initial assignment they were asked to pay special attention to the person who was influenced by the action. This way we minimized the chance that they would omit the target participants and thus maximized the chance on full dative reconstructions.
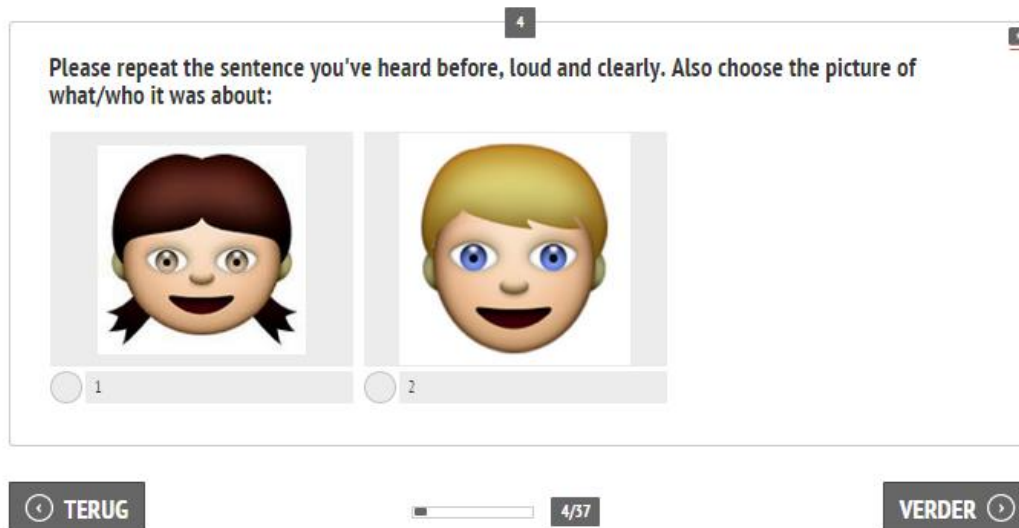
Figure 2   Example sentence elicited imitation task
The science committee awarded my brother the trophy (DOC)
*The science committee awarded the trophy to my brother (PC)

Unfortunately, this refinement of the method was only partially successful as not all participants reconstructed a dative construction for each verb but instead left out a participant or changed the structure of the sentence completely. None of the participants had repeated every sentence literally, although the percentage of changed structures was smaller than expected. Apparently, the participants' urge to complete the repetition task submissively overruled their collostructional preferences.

Since results can also be influenced by factors such as lexical frequency, verb tense and aspect, lexical density, syntactic structure, verb object predictability etc. (Christensen, Hendrickson et al. 2010, 233-234), another recurrent critique is that the test sentences used in EI tests are often perceived as too constructed, resulting in unnatural behaviour compared to spontaneous oral language (Jessop, Suzuki et al. 2007). This can be resolved by selecting stimuli from natural corpus data, although unfortunately this was not an option for our test, for we already have a lot of factors to take into account which could influence the dative alternation (as seen in section 2.2.3).

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[126] The focus on meaning instead of form is preferable since this stimulates the reconstructive aspect of the repetition process, rather than verbatim repetition (Erlam 2006) Another valuable option is e.g. to ask the subjects to assess the validity of the statements.

3.2.1.1 Results: hypothesis

In this test we expect the more proficient learners to be able to repeat the sentences with ease. Less proficient learners are supposed to struggle more, since they might not know all words and probably are distracted more by the counting and stimulus-depiction matching task, possibly resulting in more restructured outputs while the proficient learners might be tempted to repeat verbatim. Yet on the other hand, when offered incorrect sentences, we expect the less proficient to lack the confidence to restructure the sentences to a more natural word pattern.

Investigating collostructional preferences with the dative alternation, our main focus are the grammatical patterns in which these occur: DOC versus PC. For both groups, the natural response in this experiment would be to repeat the grammatical structure heard in the stimulus. This is due to the phenomenon of *syntactic persistence* or *priming*, urging speakers to reuse the linguistic structures heard, read or said before (Gries & Wulff 2005, 183; Bernolet, Hartsuiker et al. 2007, 932; de Marneffe, Grimm et al. 2011, 35; Bernolet, Colleman et al. 2014, 113).[127] These effects have been found in all sorts of linguistic structures[128], however mostly investigated in alternations, such as actives vs. passives (Weiner & Labov 1983); particle placement (Szmrecsányi 2004; 2005); analytic vs. synthetic comparatives (Szmrecsányi 2004; 2005) future markers (Szmrecsányi 2004; 2005) and most importantly, in the dative alternation (Gropen, Pinker et al. 1989, 222; Bock 1986; Hartsuiker & Kolk 1998; Pickering, Branigan et al. 2002; Pickering & Branigan 1998; Loebell & Bock 2003; Gries & Wulff 2005; Snider 2008). Note, however, that these priming effects can easily be overridden when subjects are guided towards a certain construction (e.g. Gropen, Pinker et al. 1989, 230) e.g. by manipulating discourse-pragmatic factors (as discussed in section 2.2.3). But, as seen before, this is not the case in our experiment. Our main focus is the effect of the verb on the collostructional choices.

Considering that this persistence has been found in both adult and child language (e.g. Gropen, Pinker et al. 1989, 203; Savage, Lieven et al. 2003; Huttenlocher, Vasilyeva et al. 2004; Conwell & Demuth 2007; Bencini & Valian 2008; de Marneffe, Grimm et al. 2011, 49; and references therein), no effect of age is expected. Language proficiency however, should be an important factor. One of the main findings in EI tasks is that grammatically incorrect sentences are corrected spontaneously (Markman, Spilka et al. 1975; Hamayan, Saegert et al. 1977; Munnich, Flynn et al. 1994), provided that the learner has this specific knowledge in his/her internal language system. Accordingly, proficient learners of English are expected to be aware more of the (sometimes subtle) collostructional preferences found in English, which might result in (automatic) corrections of the "incorrect" structures. On the contrary, less experienced learners would repeat the "faulty" sentences just as easily. Moreover, for less proficient speakers we anticipate two additional factors which might overrule the *syntactic persistence:* transfer from their mother tongue and/or the learner *to-* strategy (as seen in section 2.2.2.2.1.3.1.3).

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[127] Sometimes also called *structural parallelism*, referring to the *persistence effect* on linguistic structures within dialogues (Bresnan, Cueni et al. 2007, 77). A similar effect is found when a subject is forced to use a particular construction; he/she will carry this pattern into his/her spontaneous language production (Bock 1986).

[128] As discussed in Bernolet et al (Bernolet, Colleman et al. 2014, 113), syntactic priming effects have been found both within (Chinese, Dutch, German, English, Greek, Japanese, Swedish, ...) and in between languages (bilingualism), both in speaking and writing, monologue and dialogue. For further overviews, see for example (Szmrecsányi 2004; 2005; Pickering & Ferreira 2008).

The test included 6 verbs which portray deviant preferences in English and Dutch concerning the dative alternation: 4 verbs with stricter restrictions in English than in Dutch and 2 verbs with opposite collostructional preferences. However, as seen many times before, such knowledge is unconscious and never learned explicitly, thus less proficient learners might not be aware of these collostructional tendencies. Unexperienced learners are therefore expected to copy the constructions, even if they are unnatural in English, or to be influenced by a transfer effect in their collostructional preferences. This hypothesis is strengthened by previous evidence of cross-lingual syntactic priming in the dative alternation, as seen in section 2.2.2.2.1.3.1.2. Although our experiment does only requires production of their L2 English, unconscious activation of the mother tongue cannot be precluded, possibly resulting in transfer effects on their construction choice.[129] This set-up, in which the participants draw on their implicit knowledge for oral production under a certain time pressure, is said to give room for possible transfer especially (Baten & De Cuypere 2014, 32), since in such situations, "[l]earners are more likely to go by 'feel' rather than rule", as stated by (Ionin & Montrul 2010, 911).[130] Additionally, possibly even competingly, unpolished speakers of English might be influenced by the universal learning strategy of preferring the PC construction (see 2.2.2.2.1.3.1.3).

3.2.1.2   Limitations

Despite our attempt to avoid influences that were not due to verb biases, there were certain aspects we could not regulate: for example, (as they have reported afterwards) some participants have sought actively for a motive in the experiment and assumed that the DOC construction "is typically English", while in fact it was not (at least not for all verbs). Also, Wolk, Baumann et al. (2011, 2401) have suggested the complication that in experimental settings, subjects possibly behave different than in their L1 ('the L1 contrast effect') on purpose.

3.2.2   Sentence rating test

In the second test, an intuitive judgment test, the same 24 sentences were used. In 12 assignments, each time portraying both the "correct" and "incorrect" constructions/versions of the stimuli sentences, the participants were asked to distribute 100 points between the sentences according to how natural they sound (i.e. the 100-splittask[131]) (see Figure 3).

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[129] Note that his transfer is not self-evident, as for example none was found in Gries and Wulff's research of the dative alternation in German EFL learners (2005, 189). Similarly, no clear relation between construction choice and mother tongue was found when comparing Polish, German and Spanish learners of English, investigated by Manzanares and Lopez (Manzanares & López 2008, 214).

[130] Baten and de Cuypere (2014, 32) mention a previous experiment by Baten (2013) in which Dutch learners of German showed a tendency towards the prepositional pattern in spoken language production, which is a possible transfer effect from their mother tongue.

[131] We slightly altered the methodology of Bresnan's (2007b) 100-split task, in which usually participants are asked to score both a correct and incorrect sentence according to how natural they sound, while we only presented more and less correct structures. The resuls are usually linked to their linguistic knowledge, based on "the assumption that one aspect of linguistic competence includes the ability to make introspective judgements about the grammaticality of sentences (Chomsky, 1,965, 1980; Peters, 1972)" (Mazurkewich & White 1984, 267).
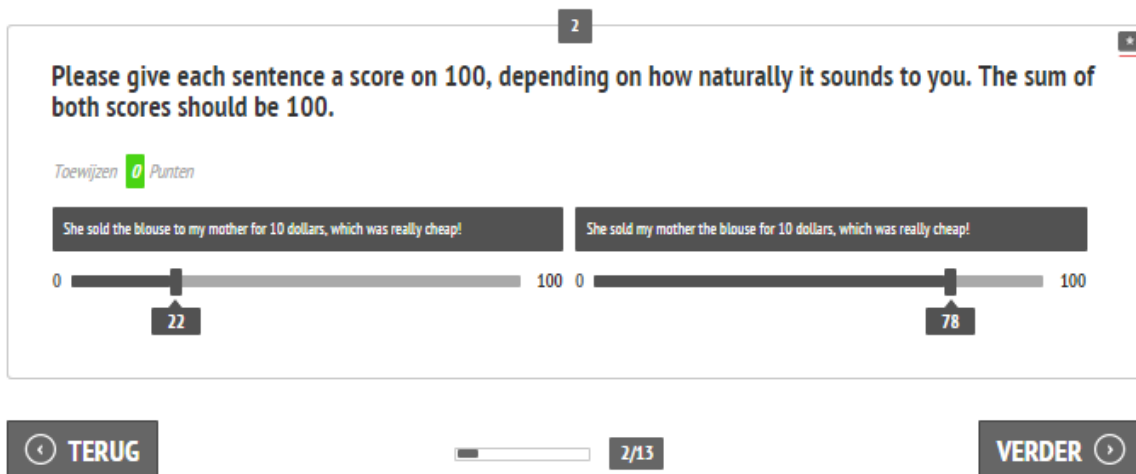
Figure 3   Example sentence rating task

This demonstrates the subject's collostructional preferences when relying on linguistic introspection and explicit knowledge, as was also conducted by eg. Bresnan and Ford (2010) and Jäschke and Plag (2015) to investigate collostructional preferences in the dative construction. Similarly, in our experiment, the scores portray their relative preference for either the "true English" or the "Dutch" (or in some cases "learner")construction, which could shed light on how familiar our subjects are with the English preferences or how their mother tongue possibly causes them to be more acceptant of Dutch-induced constructions.

3.2.2.1   Results: hypothesis

Again, we expect less proficient learners to be influenced more by their mother tongue. Although not all verbs show strong restrictions in their English combination patterns, more proficient learners can be expected to have a more fine-grained knowledge of the English collostructions thus rejecting the "Dutch" or "learner" patterns. Highly proficient learners can even be expected to score the constructions conform the native preferences, as was established in collostructional research (see section 2.2.2.2.1.2) (Wolk, Baumann et al. 2011, 2402).

3.2.2.2   Limitations

Even though the subjects could distribute the 100 points in all possible combinations, urging them to express their preference more intuitively (i.e. not restricted by eg. a 7-point lickert scale or categorical decisions), some participants scored the sentences in extremes. 3 participants only used 0 vs. 100 ratings, which however did not pose problems for the data analysis since in boxplots outliers are treated accordingly. Then, there is the debatable disadvantage to this method that "interpretation of results obtained by using tests of this kind is not uncontroversial because grammaticality judgements may be affected by a number of other factors (see Bever 1970; Fillmore 1972; Langendoen & Bever 1973; Bolinger 1986, as mentioned in Mazurkewich & White 1984, 267).

3.3   Participants

Investigating possible collostructional transfer from Dutch to English, we inquired the linguistic behaviour of 40 Dutch mother tongue speakers with a certain knowledge of English as L2 (age range 16-52 years)[132]. All subjects participated voluntarily in the experiment which consisted of two tests. The main test investigated their collostructional behaviour in two separate experiments, as was discussed in section 3.2. But first, to distinguish between more or less proficient learners, their L2 English proficiency level was tested in an online proficiency test (Examagram) which assigned them an official CEFR level. The scores ranged from 388 to 964 out of 1000 (mean = 707; SD = 147,36732) and according to their performance they were divided in two groups: a B and a C group. The former group consisted of 20 participants which have sufficient but not excellent knowledge of English. On average, they scored 585,25 out of 1000 (SD=90,49099) The more experienced group consisted of 20 participants with a mean score of 828,75 (SD=71,98748). In total 37,5 % of the participants were male and 62,5.% female. In order to process the results anonymously, all subjects were assigned a code indicating their proficiency level. An overview is given in Table 15.

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[132] Because all test were conducted solely in English, we only included subjects with an adequate knowledge of English as a foreign language (i.e. scoring at least within the level B1. Only one exception was included: B20, who scored within the A2 level but was included in the B-group). We expected that insufficient knowledge would have amounted to confusion and invaluable results. Also, De Cuypere, De Coster et al. (2014, 202) suggested that transfer effects would be better visible in somewhat proficient learners than in beginners since the dative alternation is known to be acquired rather late in L2 acquisition.

Table 15   Participants (ranked by Examagram score)

Nr.	Participant code	score	Examagram CEFR level	Nr.	Participant code	score	Examagram CEFR level
1	C1	964	C2 Mastery or proficiency:	1	B1	678	B2 Vantage or upper intermediate:
2	C23	929	Examagram Score: 858 – 1000	2	B2	678	Examagram score: 572 - 714
3	C12	929		3	B7	678	
4	C2	893		4	B12	678	
5	C16	893		5	B17	678	
6	C17	893		6	B3	643	
7	C4	858		7	B4	643	
8	C5	858		8	B5	643	
9	C14	857	C1 Effective Operational	9	B6	643	
10	C15	821	Proficiency or advanced:	10	B10	607	
11	C18	821	Examagram Score: 715 - 857	11	B13	607	
12	C6	786		12	B19	607	
13	C20	786		13	B8	571	B1 Threshold or intermediate:
14	C7	786		14	B11	535	Examagram score: 429 - 571
15	C13	786		15	B18	535	
16	C8	750		16	B21	500	
17	C9	750		17	B16	500	
18	C10	750		18	B14	464	
19	C19	750		19	B15	429	
20	C11	715		20	B20	388	A2 Waystage or elementary: Examagram score: 246-428
				total	n = 40	m = 707	

* for a more detailed description of the levels, see Appendix B.

Chapter 4   Results and discussion

In this chapter, our results will be analysed using the statistical analytics software IBM SPSS Statistics 2.0 (IMB Corp. 2011). The results of both tests will be discussed (see section 4.2 and 4.3) and compared (see 4.4), investigating whether the subjects showed similar behaviour in the Elicited Imitation task, a task in regulated language production and the sentence rating task, a task of grammatical judgement. We first examined their linguistic behaviour overall for transfer effects, later investigating the influence of subject- and item-related factors which could explain the presence or absence of the expected transfer effects. Our main focus is the influence of linguistic proficiency (see 4.5.1), but since there are so many possible factors influencing the dative alternation, it is essential we also take into account verb-related aspects as formal similarity (see 4.5.2.1), constraints in meaning (see 4.5.2.2), prototypicality (see 4.5.2.3) instead of relying on absolute measures.

4.1   Results

In the statistical analyses, the test results of all participants were included. Even though not all results were ideal - for example some people did repeat verbatim in the Elicited Imitation task, or others only distributed maximum scores of 0 and 100 in the sentence rating task – these were still taken in consideration since these are likewise informative. In total, after excluding the fillers, we thus had 40 datasets with each time 16 reconstructed sentences and 16 acceptability ratings, two for each verb.

In line with the factor currently investigated, the results were categorized according to verb category (four categories, each comprising two verbs) and/or group of linguistic proficiency (the B vs. the more proficient C group, see 3.3). This was necessary since we have worked with verbs that show very variable and sometimes even contrasting collostructional preferences, and also differ in their collostructional strenght, which means that overall, absolute numbers would not be very informative. Therefore, we will discuss the results for the individual verbs or verb categories seperately.

4.2 Experiment 1: Elicited Imitation task

As seen before (see 3.2.1), we have presented our participants with audio records of 24 stimuli sentences, 12 "correct and 12 "incorrect" ones, and asked them to repeat them, following the procedure of an Elicited Imitation task. With respect to the dative constructions, either DOC or PC, we expect the participants to repeat the patterns that they have heard because these were elicited both explicitly, by the assignment, and automatically, as a result of syntactic persistence. That is, when these are not overruled by other factors, possible resulting in altered output sentences, as we will discuss later.

Our main focus is the factor linguistic proficiency, which is assumed to urge proficient learners to correct the (rather) incorrect sentences automatically and to counter linguistic transfer effects or effects from the learner strategy. Surprisingly, however, we have observed that overall, the more proficient group has performed only slightly better than the B group: based on the mean scores, their behaviour was rather similar although still affirming our hypotheses (see Table 16). The main distinctive observation to be made here is that overall, there was no clear distinction made by the B group between correct and incorrect patterns, at least not in their repetitive behaviour. In a way, the C group did, replicating more correct than incorrect constructions, although a larger discrepancy might have been expected, both in terms of grammaticality as in linguistic proficiency. Both groups have automatically corrected some of the 'incorrect' patterns, the C group slightly more than the B group. And even though this value is rather low, this was not unexpected, since most collostructions are not correct/incorrect in absolute terms. In comparison, however, it is surprising to observe such a high degree in which both groups made unjustified "corrections" to correct patterns. For both groups, this might indicate a strong influence from their mother tongue (or learner strategy), which seems to be significantly stronger in the B-group.

Table 16   Overall performance B and C group experiment 1

	correct pattern replicated	incorrect pattern replicated	incorrect pattern altered to correct pattern (= justified)	correct pattern altered to incorrect pattern (= unjustified)
B group	72,13% (0,26471)	78,13% (0, 26766)	21,87% (0,26766)	27,88% (0,26471)
C group	81,00% (0,14383)	72,13% (0, 25363)	27,88% (0,25363)	19,00% (0,14383)

* for the descriptive statistics and an overview of the results, see appendix C

Overall, the results seem to bear out our assumptions, but the results are quite variable for some of the verbs and no clear tendencies in respect to verb category were found, only individual verbs eliciting quite distinctive behaviour. For six of the eight verbs, for example, the C group has replicated the correct pattern more than the B group did *(vs. announce* and *explain)*, as was expected. This was also the case, though, for the incorrect patterns of two verbs (*announce* and *award*). But still, the C group has altered less correct input sentences into incorrect ones (with the only exceptions being *announce* and *explain)* which would be a transfer-based action expected for the B group more. In the following paragraphs, we will further discuss the results per verb individually with respect to the proficiency factor. The categorical distinction made before will be preserved though, for structural purposes.

We have presented the results as follows: for each verb and each proficiency group a crosstable was constructed, presenting how many subjects have replicated or changed the pattern heard before and whether this resulted in correct or incorrect patterns. Because some results had to be left out, due to the inadequacy to reconstruct the sentences, the omission of the verb or the goal participant, or the choice for an alternative verbs by some participants, the total results for each stimuli sentences differed. Our further analysis was therefore based on percentage data instead of absolute numbers[133].

First and foremost, we have calculated the association between 'the structure heard' and 'the structure replicated' with Pearson's Chi-square Tests for Independence for both level groups[134]. For most verbs, the outcome was significant, as was expected. For other verbs, however, the test indicated that the observed output is not related to the input (*send* and *cost* in the B group, the latter in the C group as well). This is where other factors might be at play (or at least, here they are clearly detectable), possibly overriding the syntactic priming effect: high proficiency might cause the subjects to correct the pattern; low proficiency might cause ignorance, resulting in the acceptance and repetition of incorrect patterns. Given the hypothesis that "their acceptance or rejection of grammatical violations in spoken stimuli represented in realtime would be an indication of their internalization of targeted language structures" (Erlam 2006, 477), and our assumption that our internalized constructicon is blueprinted by the mother tongue (even more in inproficient learners), we assume that they might even allow transfer effects (or influence from the PC-learner strategy in their collostruction production), which would be expressed through excessive alternation into the Dutch-like (or PC-learner) construction, even when not allowed in English.

Additionally, peculiar results for individual verbs can be explained when taking into account formal and semantic similarity, and prototypicality, as will be discussed later (see 4.5.2 Verb-related factors).

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[133] In the following tables, row totals with an asterisk (*) thus indicate that n sentence repetitions (deviating from the original total of 20) had to be eluded.

[134] In all analyses, we have applied the significance level of 0,05.

4.2.1 Verbs compatible with only the PC in English: *announce* and *explain*[135]

As indicated in Table 17 (and Appendix C), *announce* seems to have elicited very similar behaviour by the B and C group. Significant associations between the construction heard and reconstructed have been established by a Pearson's Chi-square test for both groups (χ^2= 9,48, p=0,0021 and χ^2= 9,29, p=0,0023 for the B and C group respectively), although the results for the originally incorrect (Dutchlike) DOC construction input are worth further inspection. Both groups seem to have changed the construction of their output sentence to the correct construction automatically rather often (about half of the time), the B group even slightly more than the C group. This, in addition to the fact that almost none of the participants have changed the PC pattern (the only correct version in English) to a DOC construction, which would be correct in Dutch, suggests that the transfer effects for this verb are very weak. Unexpectedly though, one member of the C group instead of the B group did this.

Table 17   Results EI: *announce*

B group	Replicated construction					
Construction heard	DOC		PC		total	
DOC	9	(50%)	9	(50%)	18*	
PC	0	(0%)	18	(100%)	18*	
C group	Replicated construction					
Construction heard	DOC		PC		total	
DOC	11	(57,8947%)	8	(42,1053%)	19*	
PC	1	(5,5556%)	17	(94,4445%)	18*	

The results for *explain* (see Table 18 and Appendix C) are different from *announce*, although again very similar for both proficiency groups. Both groups have altered the input patterns less, as indicated by the stronger and significant associations (χ^2=26,19, p<0,0001 and χ^2=15,33, p<0,0001). Again, barely any participants have altered the correct PC pattern to a DOC construction (which would be possible in Dutch and again, these were members of the C group. With respect to our transfer hypothesis, both verbs thus do not affirm a transfer of collostructional behaviour. Note however, that in Dutch both patterns are allowed. Transfer could thus still be taking place, to the PC construction, only not visibly.

In both groups, though, at least 15% of the incorrect DOC patterns were (rightly) altered to the PC construction. This was observed slightly more for the C group (21%>15%), moderately confirming our hypothesis that more proficient learners are more aware of the collostructional subtleties.

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[135] Note that the collostructional preferences of *announce* and *explain* are opposite from the verbs discussed below, thus that the 'correct' and 'incorrect' percentages are not situated in the same position as in the other tables.

Table 18   Results EI: *explain*

B group	Replicated construction					
Construction heard	DOC		PC		total	
DOC	17	(85%)	3	(15%)	20	
PC	0	(0%)	20	(100%)	20	
C group	Replicated construction					
Construction heard	DOC		PC		total	
DOC	15	(78, 9474%)	4	(21,0526%)	19*	
PC	2	(10,5263%)	17	(89,4737%)	19*	

4.2.2   Verbs compatible with only the DOC in English: *cost* and *deny*

Even though both proficiency groups have treated *cost* similarly, this verb has shown to be special in several respects. First of all, this is the only verb for which the association between structure heard and replicated was not significant for all participants (χ^2=0,69, p=0,4062 for B and χ^2=0,28, p=0,5967 for C group), and especially the PC construction has been altered a lot. No less than 75% of the B and 85% of the C group have corrected the input PC construction, which would be allowed in Dutch but not in English, to the DOC construction. Again, this confirms the assumption that more proficient learners would respect the collostructional preferences more, although the B group as well seems to be well aware of these. In terms of transfer effects there are few indications to be found: only 10% of the B group and 5% of the C group have altered the input to a possibly Dutch-inspired PC construction; and 25% and 15% respectively have replicated it. Still, though, these distributions affirm our transfer hypothesis related to linguistic proficiency level. See Table 19 and Appendix C.

Table 19   Results EI: *cost*

B group	Replicated construction					
Construction heard	DOC		PC		total	
DOC	18	(90%)	2	(10%)	20	
PC	15	(75%)	5	(25%)	20	
C group	Replicated construction					
Construction heard	DOC		PC		total	
DOC	19	(95%)	1	(5%)	20	
PC	17	(85%)	3	(15%)	20	

Contrary to those of *cost*, the association results of the *deny*-stimuli are significant (χ^2=9,18, p=0,0024 and χ^2=7,4 p=0,0065). While the C group has replicated all sentences to an even degree, the B group has, quite remarkably, repeated the incorrect PC construction even more than the correct DOC construction (100%>45%). Affirming our transfer and proficiency hypotheses, the C group has corrected the PC construction to the English preferred DOC construction more than the B group did, although still in a rather low degree (±25%). A clearer distribution is found when taking into account the unwarranted changes of a DOC to a PC construction, which is allowed for the Dutch counterpart. Here, the B group has, voicing transfer effects, produced the PC construction twice as much as the C group did (55%>25%). See Table 20 and Appendix C.

Table 20   Results EI: *deny*

B group	Replicated construction				
Construction heard	DOC		PC		total
DOC	9	(45%)	11	(55%)	20
PC	0	(0%)	20	(100%)	20
C group	Replicated construction				
Construction heard	DOC		PC		total
DOC	15	(75%)	5	(25%)	20
PC	5	(26,3158%)	14	(73,6842%)	19*

4.2.3   Verbs with preference for DO in English vs. for PC in Dutch: *ask* and *award*

The results for *ask* and award are represented in Table 21, Table 22 and Appendix C. Because the collostructional preferences for these verbs are contrasting in English in Dutch, instead of partly overlapping (see the previous categories), our transfer hypothesis should be illustrated the strongest here. In terms of acceptancy for the Dutch-inspired patterns, this seems to be the case indeed (for both verbs, 82-100% of the incorrect English patterns were replicated, scores only met by *deny*). However, due to fairly high acceptancy rates for the correct English pattern as well (the association was significant and strong for each of the verbs and groups: *ask* χ^2=14,83, p=0,0001 and χ^2=16,02, p<0,0001; *award* χ^2=9,81, p=0.0024 and χ^2=16,01, p=0>0,0001), not that many of the correct DOC patterns were (unjustified) altered to the Dutch-like PC construction, which would indicate a very obvious transfer in the collostructional preferences. For *ask*, ±30% of the B and ±22% of the C group did; for *award* ±21% and ±16%, twice confirming our hypothesized correlation with linguistic proficiency. Some of the patterns were altered for corrections following English standards too, although always to a lower degree than alternations following Dutch collostructional preferences.

Table 21   Results EI: *ask*

B group	Replicated construction					
Construction heard	DOC		PC		total	
DOC	12	(70,5882%)	5	(29,4118%)	17*	
PC	0	(0%)	16	(100%)	16*	

C group	Replicated construction					
Construction heard	DOC		PC		total	
DOC	14	(77,7778%)	4	(22,2222%)	18*	
PC	2	(11,7647%)	15	(88,2353%)	17*	

Table 22   Results EI: *award*

B group	Replicated construction					
Construction heard	DOC		PC		total	
DOC	11	(78,5714%)	3	(21,4286%)	14*	
PC	3	(17,1671%)	14	(82,3529%)	17*	

C group	Replicated construction					
Construction heard	DOC		PC		total	
DOC	16	(84,2105%)	3	(15,7895%)	19*	
PC	3	(15%)	17	(85%)	20	

4.2.4   Verbs with preference for DO in English and Dutch vs. for PC by learners: *grant* and *send*

Our last category of verbs is again exceptional, since the collostructional preferences here are not contrasting in English and Dutch, but competing with a previously observed learner strategy: excessive use of the PC construction (see 3.1.1.4). Besides the fact that these two verbs seem to have been treated quite differently by our participants (see Table 23, Table 24 and Appendix C) it is clear that all participants have relied on this strategy in some degree: especially for *send*, a lot of the correct DO constructions have been altered into a PC construction. No less than 75% of the B group did so (the only case where the association between structure heard and replicated was not significant χ^2=1,76, p=0.1846) and 50% of the C group (χ^2=5,83, p=0.0158); similarly ±33% of the B group (χ^2=08,81, p=0.003)

and ±17% of the C (χ^2=15,18, p<0,0001) did for *grant*. Accordingly, (incorrect) PC constructions were easily replicated (±88-95%). Note, however, that the subjects did not rely on this strategy completely: still 5%-±12% of the PC input sentences were corrected into DOC structures. Again, these verbs confirm our assumption that less proficient learners are more sensible to this strategy than the advanced ones.

Table 23   Results EI: *grant*

B group	Replicated construction				
Construction heard	DOC		PC		total
DOC	12	(66,6667%)	6	(33,3333%)	18*
PC	2	(11,7647%)	15	(88,2353%)	17*
C group	Replicated construction				
Construction heard	DOC		PC		total
DOC	15	(83,3333%)	3	(16,6667%)	18*
PC	2	(11,7647%)	15	(88,2353%)	17*

Table 24   Results EI: *send*

B group	Replicated construction				
Construction heard	DOC		PC		total
DOC	5	(25%)	15	(75%)	20
PC	1	(5%)	19	(95%)	20
C group	Replicated construction				
Construction heard	DOC		PC		total
DOC	10	(50%)	10	(50%)	20
PC	2	(10%)	18	(90%)	20

4.3   Experiment 2: Sentence rating task

As said before (see 3.2.2), a sentence rating task investigates the participant's collostructional preferences when relying on linguistic introspection. More specifically, our results indicate how the subjects have scored both a correct and incorrect version of a certain pattern (collostructions of verb in combination with both dative constructions) on grammaticality. The scores wil reveal in which degree the subjects are aware of the verb bias in English, or whether their preferences are influenced by their Dutch mother tongue. See appendix D for an overview of the rates given per verb and per linguistic level.

Before, we have hypothesized that less proficient learners, the B group, are influenced more by their mother tongue than the C group. Their acceptancy rates of the Dutch-induced or "learner"constructions are expected to be higher than those given by the C group, maybe even higher than their acceptancy rates for the correct English versions. Conversely, more proficient learners are expected to have a more fine-grained knowledge of the English collostructions thus rejecting the "Dutch" or "learner" patterns. Mean scores indicate that indeed,the B group is more acceptant of the Dutch construction than the C group is, although the discrepancy is less outspoken than expected and does not overrule their preference for the correct English constructions.

Table 25   Overall performance B and C group experiment 2

	Mean score for Dutch pattern
B group	46,1875 (17,22892)
C group	43,1000 (13,52181)

* for the descriptive statistics and an overview of the results, see appendix D

Although the mean scores indicate that the B and C group has performed very similarly, closer inspection of the results indicates that this is not the case for all verbs. Also keeping in mind the variable collostructional behaviour (and strength) of our verbs, overall mean scores for either the Dutch or English pattern possibly do not provide a truthful image of possible transfer effects. Therefore, we will discuss the verbs individually when investigating the main factor: linguistic proficiency. The results per verb and per proficiency group are given in the following boxplots (see Figure 4). Scores for the correct, English pattern are scaled on the y-axis, with a higher position on the chart indicating higher acceptability ratings for the (more[136]) correct pattern (with a maximum score of 100). Accordingly, mean scores[137] higher than 50 indicate an overall preference for the English pattern, lower scores indicate a tendency towards the Dutch-based or learner pattern.

A first general observation is that the results of both groups are very variable, and therefore similar, in their distribution. In terms of interquartile range, range, skewness, direction and strenght

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[136] As seen before, we cannot label the patterns as being 'correct' or 'incorrect' in absolute terms. Although this is not constantly stated explicitly, the intended reading is 'more correct' and 'more incorrect'.

[137] The mean rating for each verb is represented by the blue diamond. In further analysis however, we will use the median as the measure of average scores.

of preference, there is no clear, overall distinction to be made between the B and C group. Therefore, we will discuss their performance for the verbs individually, in search of identifiable motives.

Currently only taking into account the average (i.e. median) scores for each group, the expected distribution was found for only some of the verbs. For three verbs, the groups clearly differed in their preferred constructions in favour of our hypothesis: in cases where the B group preferred the Dutch/learner pattern while the C group preferred the English one (*deny)* or at least did not favour the Dutch one (neutral: *grant, send)*. Unexpectedly, however, two verbs actually showed the opposite: for *ask*, the B group preferred the English pattern while the C group did not; for *explain*, they did too while the C group stayed neutral. In more cases, though, and as expected, the B group allocated lower scores to the English pattern than the C group did (4/8: *deny, award, grant, send* vs. 2/8 the other way around: *explain, ask)*. For the remaining verbs (*announce, cost)* the scores were rather similar for both groups, both strongly in favour of the preferred English pattern.

Overall, the B-group preferred the Dutch construction more than the C group did (4/8 vs. 2/8), although for all other cases the English verb bias seemed to be respected quite well. A shared preference for the Dutch construction only was only found with the verb *award.*

For all previously mentioned observations, there was no clear tendency in respect to verb category, only individual verbs triggering quite distinctive behaviour. Therefore, we will discuss the results for each verb individually. The previously mentioned categories of verbs are only kept to avoid confusion about which pattern is preferred when, and to structure the discussion in the order used before. In the following paragraphs, we will discuss the verb-specific information interpreted from the boxplots. An overview table for all verbs is given in appendix D.

Later, we will attempt to correlate any peculiar results for individual verbs to factors as formal and semantic similarity, and prototypicality (see 4.5.2 Verb-related factors).

Figure 4   Overview results sentence rating task
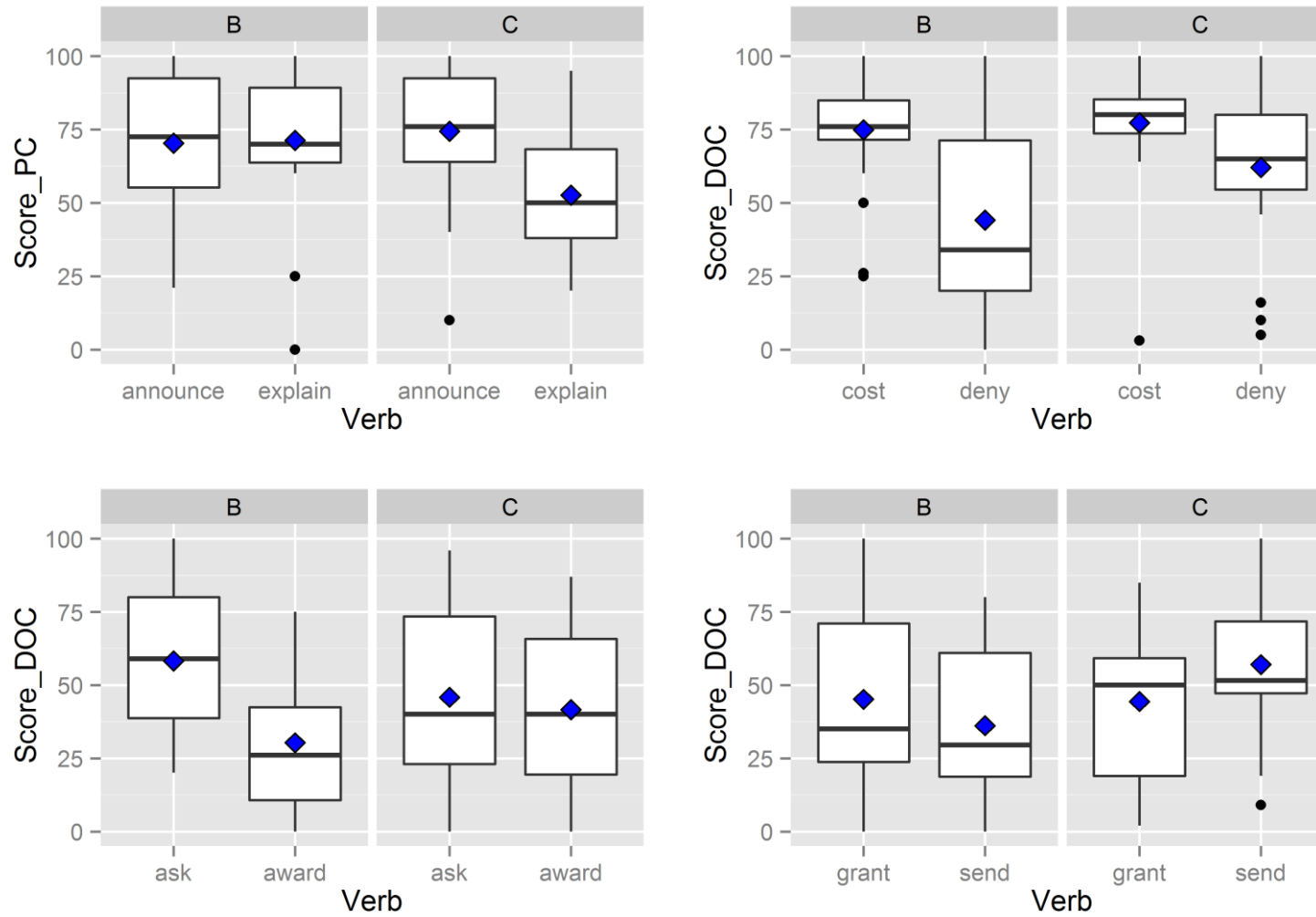
4.3.1   Verbs compatible with only the PC in English: *announce* and *explain*

An analysis of the results, given in Figure 5 and appendix D, have indicated that *announce* and *explain* elicited quite distinctive behaviour in the sentence rating task.

As mentioned before, the verb *announce* did no elicit any distinct behaviour in our level groups. Except for the fact that the minimum score of the B group is significantly lower than of the C group (clearly Dutch preference vs. hinging around neutral), and their scores somewhat more variated, the results were very similar. Overall, both groups showed strong preference for the expected PC pattern, thus no clear evidence of transfer effects was found.

The verb *explain*, in contrast, seems to be more marked in its preferences. Unlike our hypothesis, the B group attributed higher scores to the correct pattern than the C group did, on average: while the C group was rather impartial in their judgment, the B group clearly preferred the PC construction (with a discrepancy of almost 20). In fact, none of the B group participants scored the PC construction below 50 (which would indicate a preference for the Dutch pattern), while approximately 50% of the C group did.
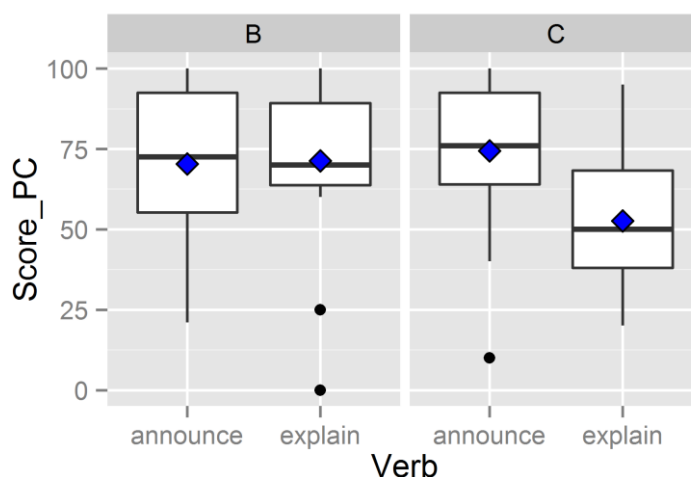

Figure 5   Sentence rating scores *announce* and *explain*

4.3.2   Verbs compatible with only the DOC in English: *cost* and *deny*

For *cost* and *deny* it seems that again, these verbs were treated similarly by our participants (see Figure 6 and appendix D).

   Cost, however, did elicit similar behaviour as *announce* did: on average, both groups scored strongly (and evenly) in favour of the English pattern, with very little variation in their marks and no scores below 60. Again, this verb did not affirm our hypothesis.

   The verb, *deny*, in contrast, did show the expected distribution. The results confirmed our hypothesis, not only in terms of relative scoring (B-scores lower than C-scores), but also categorical: on average, the B group scored below 50, preferring the (Dutch preferred) PC construction, while the C group scored above 50 (at least 75% of the group did, minimum score around 50), in favour of the construction preferred by native English speakers. Also, the C group was more consistent in their marks than the B group, whose scores were dispersed between the minimum and maximum score.
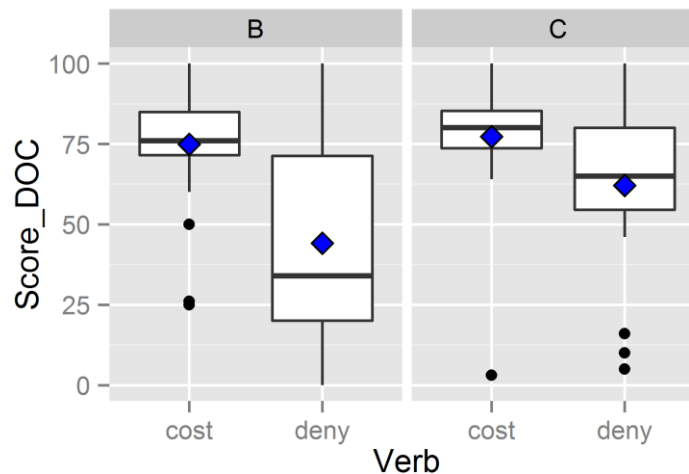

Figure 6   Sentence rating scores *cost* and *deny*

4.3.3   Verbs with preference for DO in English vs. for PC in Dutch: *ask* and *award*

For *ask* and *award* (see Figure 7 and appendix D), we did observe similar judgements, at least by the C group. On average, they preferred the PC construction (similar to Dutch preferences) for both verbs in a similar degree, although the scores were spread out broadly.

The scores of the B group differed, both for each verb as from the C group. In the case of *award*, their scores confirmed our hypothesis: they scored remarkably lower than the C group, indicating an even higher preference for the Dutch-like construction (75% of the B-scores were below the C group median score). *Award* was actually the only verb for which both groups preferred the Dutch construction.

The B-scores for *ask*, on the other hand, did not show the expected pattern. In fact, the B group attributed higher scores to the preferred English pattern than the C group did (both about 75% of the B group scores and the B group median were above the C group median, the B group median even 20 points), even showing opposite preference in categorical terms: the B group preferred the English pattern while the C group did not.
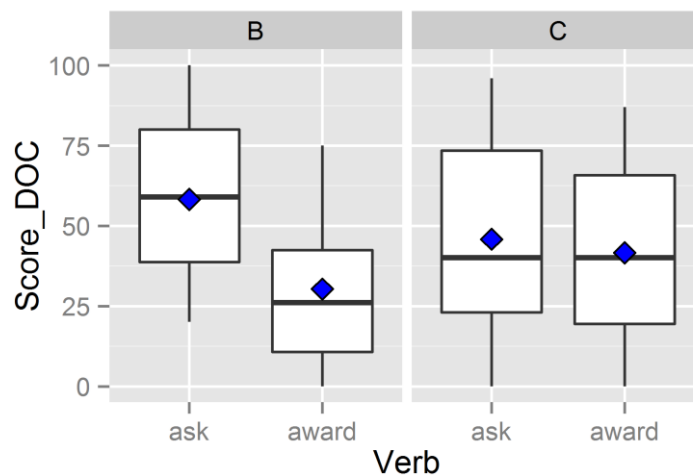

Figure 7   Sentence rating scores *ask* and *award*

4.3.4 Verbs with preference for DO in English and Dutch vs. for PC by learners: grant and send

For this verb category different in nature from the previous ones, namely contrasting both the Dutch and English preferences with a learner strategy, we did expect to see a clear disparity between the scores of both groups. And indeed, both verbs were treated similarly within a group, but differently by the other proficiency group (see Figure 7 and appendix D),.

On average, the B group allocated lower scores to the English pattern than the C group did for both verbs, as was hypothesized. Their preference for the PC (learner strategy) pattern clearly differed from the C group's stance, which was neutral, although we did expect a more outspoken bias by the C group in favour of the (Dutch/English) DOC construction (as we found, for example, for *deny).* In fact, scores for all groups and verbs were quite variable. Of the B group, for example, regardless of their overall Dutch preference for *send* and *grant,* still at least 25% of the B-scores preferred the English pattern. For *send,* however, it must be noted that their maximum score was only around 80, still giving room for the learner pattern as possible construction. The C group too, with a maximum score around 85, did not completely reject the learner pattern for *grant.* This suggests that despite overall motives, preferences are never absolute, and that universal learner strategies can still overcome language-specific customs.
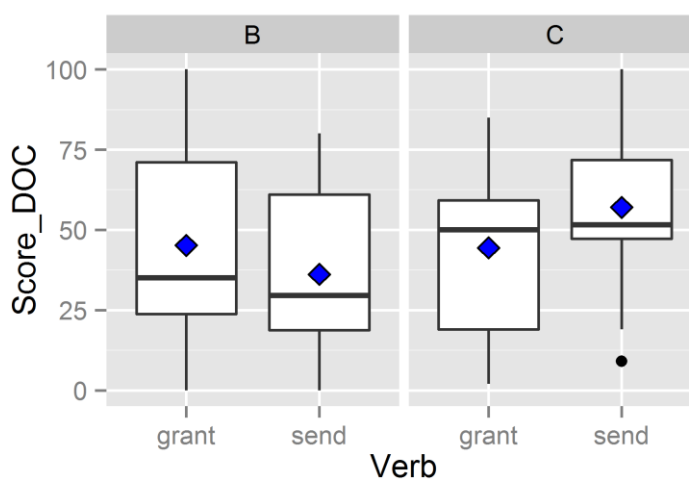

Figure 8   Sentence rating scores *grant* and *send*

4.4   Comparison experiment 1 and 2

When studying a learner's implicit language knowledge, a grammaticality judgment test is sometimes considered to be inferior to a Elicited Imitation test, since the former measures "L2 learners' "beliefs" or "prescriptive knowledge about their language" but cannot access the underlying competence that drives language production" (Tarone & Gass, 333). Others however, while praising the EI as a method for research of unconscious knowledge, also recognize its difficulties[138] and recommend cross-validation by other elicitation tasks (Bley-Vroman & Chaudron 1994). Although it is difficult to describe the role that explicit language knowledge may or may not play in the development of implicit knowledge(Erlam 2006, 465)[139], a correlation between EI and test inquiring L2 knowledge of both natures has been found previously (e.g. Gallimore & Tharp 1981; Chaudron & Russel 1990), also specifically with grammaticality judgment tasks (Munnich, Flynn et al. 1994).

As such, we decided to test both the subject's implicit and explicit knowledge which can be combined in a more complete image of their collostructional behaviour. Unfortunately, we cannot compare the data of both experiments numerically, since our data are different in nature and collostructional behaviour, and especially the EI test provides us with much more information than collostructional preferences alone.

An overall comparison however, has shown that indeed, our hypotheses with respect to linguistic proficiency are confirmed by both experiments, in a similar yet small degree (see Table 26 for a schematic overview). First of all, the C group does seem to have a more fine-grained knowledge of the English collostructional patterns, as is reflected in their slightly higher ratio of corrected patterns, higher replication rates for correct and lower rates for incorrect patterns (experiment 1), and their higher preference rates for correct English patterns (experiment 2). Also, transfer and learner effects have indeed been observed to be stronger for the B than for the C group, which is reflected in their higher overall tendency to change correct structures into incorrect ones (experiment 1), and their higher acceptancy rates for Dutch-like or unwarranted PC constructions (experiment 2). Although it must be noted that even for the B group, the overall acceptancy rate for Dutch/learner constructions does not exceed 50. The observed transfer- or learnereffects thus do not overrule the conventional English standards (overall. It does for individual verbs, as we will see later).

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[138] For example, its sensibility to a long list of variables, some of them discussed in section 2.2

[139] For a discussion of the relation between implicit and explicit knowledge and its controversy, see for example (Erlam 2006).

Table 26   Comparison results experiment 1 and 2 on linguistic proficiency hypotheses

Hypotheses	Experiment 1: elicited imitation task	Experiment 2: sentence rating task
C group will perform better according to English standards.	Replication ratio of correct and incorrect patterns - Correct: B < C - Incorrect B > C Correction ratio of incorrect patterns - B < C	Acceptancy ratio of correct English patterns - B < C
B group will be influenced more by transfer effects.	"Correction" ratio of correct patterns (into incorrect patterns) - B > C	Acceptancy ratio of incorrect English pattern (but Dutch correct patterns) - B > C
B group will be influenced more by the PC-learner strategy.	"Correction" ratio of correct patterns (into incorrect patterns) - B > C	Acceptancy ratio of incorrect English pattern (but PC-learner patterns) - B > C

For both experiments though, we must say that a larger discrepancy in collostructional behaviour between the two proficiency groups was expected. Also when comparing specific values, as for example the mean scores for the Dutch/learner pattern (experiment 2) with the mean ratio of unwarranted alternations of correct English patterns into incorrect patterns (the most straightforward indication of Dutch/learner effects in experiment 1), shows that their performance was largely similar (see Table 27). In comparison, these results indicate that the subject's spontaneous performance in the elicited imitation task broadly reflect their judgments in the sentence rating task. In the expected distribution (B>C), both groups are influenced by transfer effects in some degree, but these effects are clearly not strong enough to overrule the intended English patterns i.e. not +50% of the correct patterns were altered into Duch/learnerlike constructions and their average scores did not exceed 50 in favour of the Dutch patterns. But apparently they were strong enough to alter about 1/5th of the correct input sentences and to elicit a rather high acceptancy rate for the Dutch/learner patterns overall.

Table 27   Comparison mean performance experiment 1 and 2

	correct pattern altered to incorrect pattern (= unjustified)	Mean score for Dutch pattern
B group	27,88% (0,26471)	46,1875 (17,22892)
C group	19,00% (0,14383)	43,1000 (13,52181)

4.5 Discussion

Before, we have hypothesized that the dative alternation in particular would be very sensitive to Dutch-English transfer effects, given its high degree of semantic and formal similarity (see Chapter 2) and the learner's strategy to rely on word-for-word translations, especially for (seemingly) congruent combinations which is assumed to result in unidiomatic constructions and overgeneralizations in its combinatorial possibilities (Montrul 2001; Cabrera & Zubizarreta 2003, 2005b; Gilquin 2012, 1) (see 1.2.2.1). Since the verbs selected for our experiments show clear preferences in their combination with dative constructions, we expected L1 inspired over- or underuse of certain patterns, as was indeed the case, confirming previously mentioned studies as (Gilquin 2000/2001; Liu & Shaw 2001, 179 ; Gilquin 2010, 20; Wulff & Gries 2011). Our expectations on transfer were strengthened by our assumed high degree of 'perceived transferability' between Dutch and English. These were only partly substantiated, since although we have found transfer effects, they were not very strong.

Yet, our expectations were still met since we have observed overall transfer effects in both our proficiency groups, as was predicted by our previous transfer studies and the nature of collostructional knowledge (see 1.2.2.2). After all, the origin of transfer effects is assumed to lie in the acquisition process (see 1.2.2.2.1), with especially lack of experience and (lexical) unawareness as a very straightforward explanations. These are probably also the main reasons here, as will be discussed further in 4.5.1.

Our experiment has thus confirmed that the mother tongue can direct English learners in the choice between the dative constructions comprising the dative alternation (e.g. Inagaki 1997; Baten & De Cuypere 2014, 9), even in bilinguals (Woods & Zarqane 2012), or in the creation of the Dutch-parallel pattern in English where only one is allowed. In both experiments indeed, our participants have allowed both the dative constructions while English accepts only one (see our first two verb categories), replicating the results found by White (1991) who observed a similar transfer from English to French.

On the other hand, our experiments have confirmed that learners can rely on universal learner strategy, regardless of their mother tongue (Liu & Shaw 2001, 179). We have observed that the tendency to rely on the PC-construction strategy (cf. 2.2.2.2.1.3.1.3) in particular, is quite strong. In fact, this preference seemed to be competing with the English preferences even stronger than the transfer effects[140].

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[140] We must note that for all verbs used with the PC construction excessively, despite English preferences, this might also be the learner strategy at work. It is however impossible to distinguish such influence from transfer effects, except in verbs taking the DOC in both English and Dutch. On that ground, we have included our last category in this survey.

The fact that these transfer and/or learner effects were not absolute and did not overrule the English preferences completely was also foreseen since these participants were no complete beginners. Assuming that they have mastered some of the probabilistic information on how these verbs are combined in English, it is only logical that they do not rely on their mother tongue completely, but are influenced by unconscious transfer effects mostly (the role that high/low linguistic proficiency plays in all this will be discussed below: 4.5.1). And indeed, the English collostructional preferences were mostly respected, even when the verb is treated conversely in Dutch (as in Gries & Wulff 2005, 189; Schulte im Walde 2003). Mostly, that is, as the expected lexical infelicity was found for some of the verbs in particular. For some other verbs, on the other hand, barely any anomalous collostruction use was found. But we will come back to this later (see 4.5.2).

4.5.1 Main, subject-related factor: level of linguistic proficiency

As seen before, the level of L2 proficiency is considered a pivotal factor in conceptual transfer, even transfer effects overall (see e.g. 1.1.1, 1.1.1.1.1, 1.2.2, 1.2.2.1, 1.2.2.2, 2.2.2.1.1.1, 2.2.2.2.1.3.1.1 and 2.2.2.3.1). Our results have confirmed this, although only moderately, since in contrast to what was observed by Gilquin (2010), the collostruction use by our proficiency groups was highly similar. However, this was not completely unexpected given the nature of collostructional knowledge: the combinatorial choices are made below the level of semantic awareness, even in native speakers, and there is barely any description or prescription provided for language learners (see 1.2.2.2). Instead, the learning process is assumed to build on frequency of use, and although in Belgium English is quite a prevalent language, their amount of language input cannot be compared with that of native speakers. Incomplete collostructional knowledge and therefore relapse to their mother tongue is thus not unlikely for our participant groups, even at C-level. Similarly, previous research has even established that transfer in the Dative alternation still occurs in full bilinguals (e.g. Woods & Zarqane 2012; Baten & De Cuypere 2014, 33).

We must note that, although found in both experiments, the overall transfer- or learnereffects do not overrule the conventional English standards, even in the B group. This seems to indicate that their collostructional knowledge or "feeling" is incomplete yet certainly not inexistent. Contrary to what was hypothesized in Cabrera & Zubizarreta (2005a, 35), our participants seem to be aware of the verb-specific collostructional preferences quite early[141].

Yet still, we expect our more proficient group to have a more fine-grained knowledge of the English collostructional patterns, and indeed the expected distribution was found (see 4.4). Overall, the C group has performed better than de B group did, according to the English standards. It is very likely that their excelling knowledge is responsible for their higher preference and replication rates for the correct English patterns, and their slightly higher ratio of alternations from incorrect to correct patterns.

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[141] At least overall. Some of the verbs were treated differently, as we will discuss later (4.5.2).

Before we conducted the EI test, we believed there was a chance that the less proficient group would restructure more of the patterns, due to possibly greater struggle with the repetition task, since they might not know all the words and probably would be distracted more by the counting and stimulus-depiction task; while the proficient learners would be tempted to repeat verbatim. This was however not the case, as the C group has only repeated the correct patterns more than the B group, and the B group has only restructured more correct sentences to incorrect patterns than the C group, and not all sentences overall. This is one of the cases where the B group is clearly influenced more by the transfer or learner strategy, besides their higher acceptancy rates for Dutch-like or unwarranted PC constructions (see 4.4 for a more detailed description of the results).

And although our C group has not reached nativelike standards too, it is assumed that with increasing proficiency, learners will learn to "shed the Dutch-originated Thinking-for-Speaking" and turn to preverbalized messages specifically for their L2 (Baten & De Cuypere 2014)p32(Levelt 1989; Odlin & Jarvis 2004).Very proficient learners are expected to overcome the negative transfer effects of their L1 (just like in constructional transfer see 2.2.2.1.1.1), a stage our participants apparently have not reached yet.

The results from our verbs triggering the PC learner strategy were actually very similar, and similar assumptions about the role of linguistic proficiency have been made (Gropen, Pinker et al. 1989; Chang 2004; Führer 2009, 222; Baten 2013; Jäschke & Plag 2015). With increasing proficiency, learners are assumed to overcome the PC-learner tendency as "an earlier PP bias gives way to the more complex influence of the many factors that determine the probability of the dative choice in a given case." (Jäschke & Plag 2015, 32; also De Cuypere, De Coster et al. 2014, 203).

4.5.2   Verb-related factors

Although overall conclusions seem to confirm our hypotheses, we have observed that some of the verbs have elicited quite distinctive behaviour, which, we believe, could be related to verb-specific factors as similarity in form, semantics and degree of prototypicality (as will be discussed in the following paragraphs). Therefore, we want to investigate the verbs which deviate the most from the average behaviour for each outcome, as can be determined with z-scores. In the following graphs (

Figure 9 and Figure 10) the verbs are ordered in increasing z-scores i.e. deviations from the mean (for the B group). As you can see, there are several verbs with scores below the mean (negative values) or above (positive values). Deviations above/below +2/-2 are considered unusual, but since there were barely any verbs exceeding these borders, we will also discuss verbs with deviations above/below +1/-1.

First of all, we have examined which verbs were treated anomalously by both our proficiency groups and in what respect. In the first experiment, it seems that the incorrect pattern with *cost* was replicated unusually little. This in favour of the English standards: it was corrected a lot by both groups. In the rating task too, *cost* was accepted with the Dutch pattern remarkably little.

On the other hand, it seems that *send* especially was very sensible to the learner strategy, since an unusual large amount of correct patterns were not replicated but altered into the PC construction. In experiment 2, *send* was strongly favoured with the learner pattern, in comparison with mean scores, although only by the B group.

Although we did expect the B group be influenced more by learner/transfer strategies, there were some verbs that illustrated this especially. *Deny*, for example, was preferred with the Dutch construction above group average by the B group and below average by the C group in the sentence rating task. This was mirrored in the EI task, as the correct pattern was replicated remarkably little by the B group, but altered to the incorrect pattern remarkably much; and the incorrect pattern corrected remarkably little but just replicated instead.

Unexpectedly though, in the rating task, *explain* was preferred with the Dutch construction remarkably little by the B group, while it was averagely by the C group which would indicate that the B group is surprisingly aware of the English preferences. This was mainly reflected in the EI task as the B group replicated the correct pattern more than averagely, and altered to a Dutch construction less than they averagely did for all verbs.

Conversely, *ask* was preferred with the Dutch construction remarkably much by the C group, while only averagely by the B group. The C group thus seems to be remarkably infelicitous in the collostructional combinations. The rating scores of *ask*, on the other hand, were not completely reflected in the EI task, where it was treated very averagely by both groups. The correct *ask* pattern was not treated unusually, but the incorrect pattern was replicated unusually much, by both groups, and corrected into the English standards remarkably less.
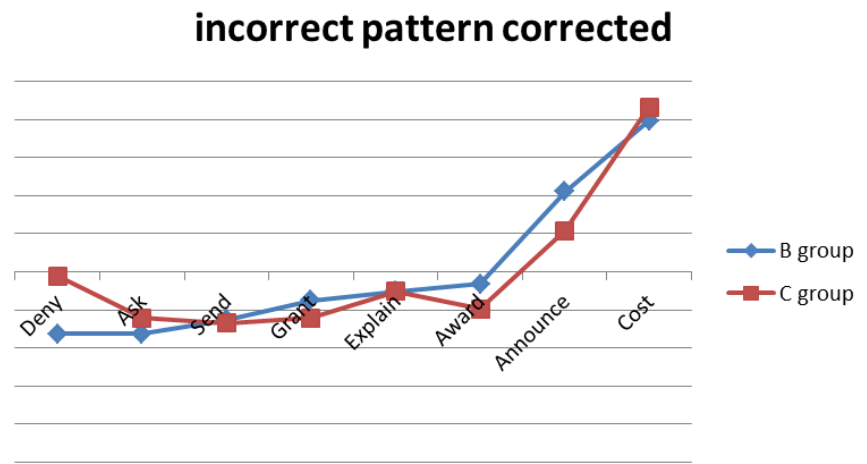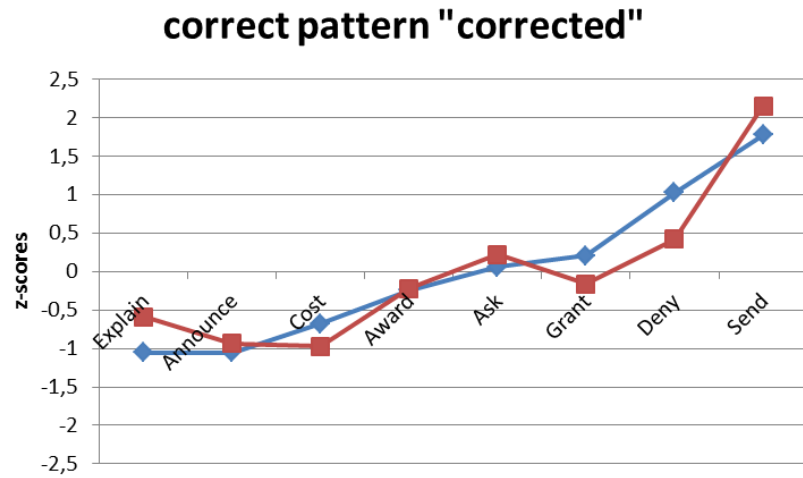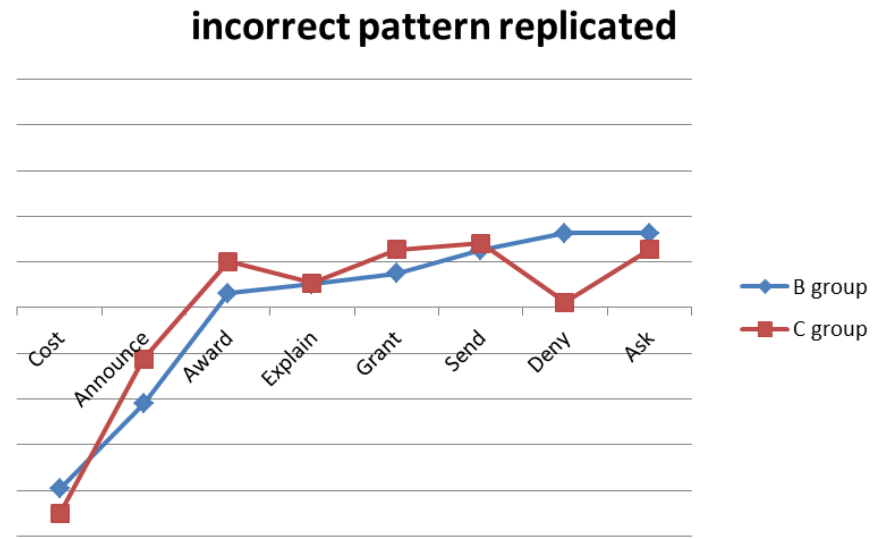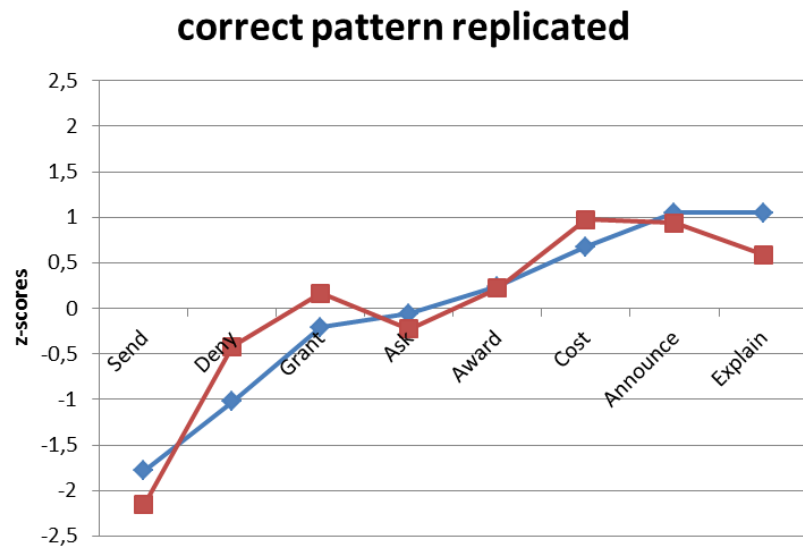
Figure 9   Z-scores experiment 1
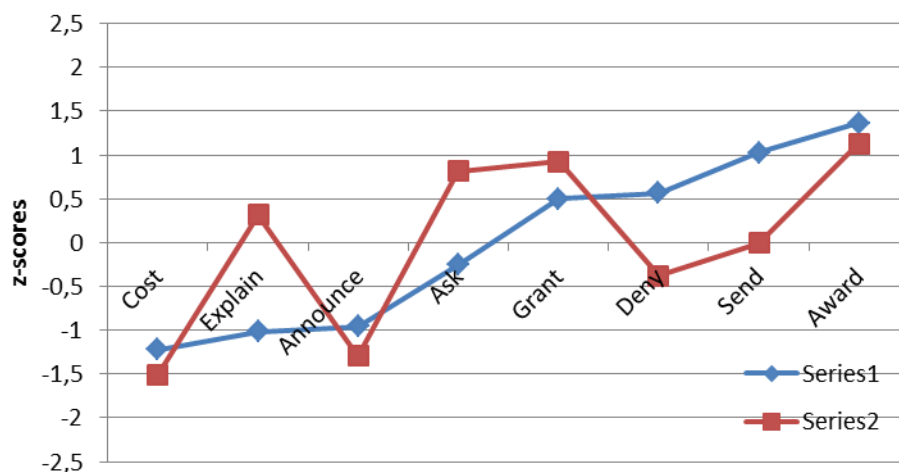
Ratings Dutch/learner pattern

Figure 10   Z-scores experiment 2

4.5.2.1   Factor #1: formal similarity

There are several ways in which linguistic transfer is influenced by form. First of all, as said before (2.2.2.3.1.1.2) the correlation between formal similarity and the sensibility for linguistic transfer advocates that the dative alternation is a prime candidate for cross-linguistic transfer. In the sense of formal properties, the English and Dutch are (mostly) perfect mirror structures, both in word choice and word order. It is only in distribution that they differ, due to language-specific semantic and grammatical restraints.

Consequently, one might claim that a larger formal insimilarity might compete with transfer effects. In our experiment, there were only two verbs for which no complete formal overlap for the Dutch and English PC pattern was found: contrary to the usual patterns with *to/aan*, *ask* takes another preposition in English (*ask of*) and *send* takes another in Dutch (*sturen/zenden naar, ?aan*). The latter is not a good example in this respect, however, since it is candidate for the PC learner strategy and thus not influenced by the Dutch pattern[142]. For *ask*, the transfer effects were not remarkably weaker than for other verbs. In fact, both groups seemed highly acceptant for the PC pattern, as it was replicated remarkably more than average, and corrected into the English standards remarkably less (which actually contradicts the results found by Gries & Wulff (2005). It is notable that in the sentence rating task, the C group even scored the Dutch-preferred PC pattern even higher than the B group did. Their behaviour clearly illustrating transfer effects, subjects thus did not seem to be aware of this formal discrepancy. Another possibility is that they were simply not aware of the usual preposition in English. This is feasible, as in the EI, some of the participants have changed *ask of* into the regular

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[142] Although, of course, transparency is very important for processability. Here as well, the difference between '*to*' and '*naar*' does not seem to counter the learner strategy, as *send* is actually very strongly prefered with the PC pattern.

preposition *ask to,* even though for this sentence in particular, the Dutch counterpart *vragen van* is also allowed, which again equates the structures. It has been observed previously though, that in "earlier stages of acquisition of the dative in the [- NP PP] frame, subjects tend to overgeneralise the preposition *to*" in competition with other prepositions (Hawkins 1987). Contrastingly, however, the behaviour of our proficiency groups might be explained when keeping in mind markedness. It is possible that the C group is actually aware of this prepositional deviation and consequently paid extra attention to the PC structure. The observation that the correct preposition was used in our sentence rating task might then have resulted in higher acceptancy scores, which was indeed observed in the sentence rating task where the PC construction was preferred remarkably much by the C group, while only averagely by the B group.

Secondly, transfer effects can include the transfer of word order, as is expected for verbs which allow the alternation in one language, but only one dative construction in the other (or the other way around). Relying on word-for-word translations, learners might thus construct unidiomatic constructions, mostly in respect to word order when either the PC or DOC construction is not allowed. Conversely, an underuse of the "true English construction" is expected as this now is competed by the other one. In our experiment too, this was the case. There were four verbs included in our experiment which only allow one of the constructions in English, and for all of the verbs we have observed transfer in favour of the construction which is also allowed in Dutch[143].

Before (2.2.2.3.1.1.2), we have also hypothesized that when both constructions available in the target language, transfer from the mother tongue is expected to result in overuse of the pattern which is formally similar to the construction preferred in the L1 (De Bot 1992, 19). We have also observed this, as for the two verbs who show opposite preference in Dutch and English, an overuse of the Dutch-preferred pattern was observed. The subjects might have simply expected the sentences to follow their familiar pattern, as was suggested by Wolk, Baumann et al. (2011, 2404).

4.5.2.2   Factor #2: semantic similarity

We have seen many times before that the high degree of (perceived) similarity between the English and Dutch dative constructions causes it to be very accessible for transfer effects. And indeed, since these are very similar in their semantics, functionality and distributional constraints, the facilitation effects are significant. However, the overlap is not complete, e.g. the verb bias can be language-specific, as is illustrated by the verbs we have included in the experiment (for a discussion of all verbs, see 3.1).

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[143] There are only two cases in which no transfer was found, unexpectely in the B group: in the EI task, none of them have altered the correct pattern into an incorrect, Dutch-inspired pattern for both *announce* and *explain.*

Unwarranted equations between target and source language thus can result in infelicitous combinations[144], mostly overgeneralizations, both due to unconscious transfer effects where the constructions are equated mentally in semantic terms too, or in simply the fact that not all learners are aware of these restrictions and consciously work from their mother tongue by analogy (see 2.2.2.3.1.1.3)

With respect to anomalous collostruction use our central hypothesis was that the L1 contributes in the determination of which verbs are allowed in the dative construction in their L2 English (similar to the objective formulated in (Cabrera & Zubizarreta 2005a, 29). And indeed, confirming many studies mentioned before (see for example 1.2.2.2.1), our first two verb categories have shown us that our subjects overgeneralize too in their combinations of constructions and verbs, since they have not always respected the semantic and/or combinatorial constraints in English, as was also the case for verbs showing opposite collostructional preferences in English and Dutch We have also observed, however, that the English restrictions are just as easily broken for the PC learner construction (see 2.2.2.2.1.3.1.3). Transfer effect thus do not seem to be the only force at play.

We have seen, however, that not all verb constraints were disregarded evenly. A comparison with the behaviour found in the German and Dutch learner-subcorpora of the ICLE, as studied and interpreted by Wulff & Gries (2011)might illuminate why some verbs were affected by the transfer effects very strongly in contrast to others, while for others the English constraints were respected. In the following paragraphs, we will discuss the verbs which were treated most deviantly, often using verb-specific information discussed before (see 3.1 and further).

We have seen before that the verb *cost* produced almost no preference for the PC construction (which would be due to transfer effects) but that the English restrictions were respected, resulting in remarkably English-like behaviour in both the EI as sentence rating task (see 4.5.2). The awareness for this preference might stem from the fact that its semantically similar verbs of 'future not having' show preference for the DOC construction as well (although on the other hand, *cost* is the only verb denoting commercial transaction which does not prefer the PC construction). It has, however, been shown previously that learners of other tongues are aware of these restrictions too (see García 2014). Our results also confirm the very distinctive preference for the ditransitive construction in Wulff & Gries (2011).

As an illustration of almost opposite behaviour, we have *send*, which, unlike the Dutch and English preference for the DOC, showed strong a strong predilection for the PC construction in the EI task, although when asked explicitly in the sentence rating task, only by the B group. Our results again mirror the results found by Wulff & Gries (2011) where *send* was the most distinctive collexeme for the PC pattern. We agree with their suggestion that this behaviour might stem from a learner's

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[144] In a sense, transfer of meaning constraints, even when resulting in incorrect structures is quite unexpected. Previous research has for example detected that learners would be more aware of these constraints, as "they more accurarely judged the ungrammaticality of sentences violating the semantic constraint than sentences violating the morphological constraint."(Mazurkewich & White 1984, 269). But we must not forget that the collostructional possibilities of the dative constructions lie below the level of semantic awareness, especially for learners who are still expanding their constructional and collostructional knowledge.

tendency to form strong generalizations (Wulff & Gries 2011), which is assumed to decrease in higher linguistic proficiency. As is usually the case with strong preferences for the PC learner strategy, reasons can also be found in transparency: since the act of *sending* often implies an actual change in location, learners might opt for the constructions which highlights the transfer from X *to* Y literally. The same reasoning might be at work for *ask.* As a verb of 'directed communication' which causes metaphorical transfer, learners possibly prefer a pattern which highlights the path and source explicitly. This does not explain, however, why the C group showed stronger preference for the (Dutch-like or learner-like) construction than the B group did[145]. For both groups though, our results did not confirm those found by Wulff & Gries (2011), where learners were allegedly very aware of the normal DO preference in English. Our participants, in contrast, were very acceptant of the incorrect PC pattern.

Another verb where the C group performed worse than the B group, at least to English collostruction standers, is *explain.* The cause for this seems to lie with the B group, who seem to be surprisingly aware of the English preferences. In comparison with overall group behaviour, they have showed remarkably little affection towards the DO construction for this verb, which would also be possible in Dutch. Such awareness was also found in García (2014); yet the C group rather replicated results found in Le Compagnon (1984). A possible explanation here is that the B group, more than the C group, is simultaneously in favour of the more transparent PC pattern for this verb of communicative transfer. Instead of reflecting a better knowledge of the collostructional pattern, this thus might be an indication of the learner strategy.

The last verb which was very outspoken in how it was treated is *deny.* In contrast to *explain*, this verb does confirm our hypotheses explicitly. In English, due to the semantic restrictions of the PC construction and semantics concerning the affectedness of the recipient, *deny* is solely allowed with the DO construction. The participants in the C group seemed to be largely aware of this, more than averagely compared to with other verbs, while the B group was not and used/accepted *deny* with both constructions found with *ontzeggen.* Their unawareness resulted in a preference for the PC dative, possibly in analogy with semantically related verbs as *weigeren,* which showed stronger preference for the *aan*-dative.

4.5.2.3   Factor #3: prototypicality

The last factor we want to investigate concerning anomalous collostruction use is whether the degree with which the English constraints are respected or transgressed can also be related to prototypicality. In collostructions, the degree of prototypicality of 'naturalness' is founded in frequency of use and collostructional strength, which is measurable (see 2.2.2.2.1.2) and language specific.

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[145] Another, yet hypothetical explanation was suggested above (4.5.2.1)

In theory, the performance of our participants could be influenced by the prototypicality in both English and Dutch. First of all, as prototypical constructions are assumed to be easier and faster to learn (Frishkoff, Levin et al. 2008) and result in more accurate collostruction use in L2 (Frishkoff, Levin et al. 2008, 1669), as might be simply due to the fact that learners have encountered these combinations more (Ellis, Simpson-Vlach et al. 2008, 389). Accordingly, this should also be more visible in the higher proficient group.

At the same time, and often competingly, since collostructional preferences in terms of frequency of use are also transferred from L1 (Selinker 1969), one would expect that the equivalents of highly-frequent, prototypical Dutch combinations are likely to be transferred into English (2.2.2.3.1.2). We assume that verbs with similar preferences in English and Dutch are prime candidates for this, although this can not be tested here. For verbs with dissimilar collostructional preferences, though, the transfer might be problematic since these verbs, typical for a certain construction in Dutch, will not automatically be highly frequent in the English equivalent too. The only verbs that would give a clear indication of whether the collostructional prototypicality in Dutch influences the behaviour in English are those with opposite preferences: *ask* and *award.* Given the fact that we do not have collostruction strength values from these verbs and their Dutch counterpart determined in a uniform way (we have not found a study that has made a numerical comparison across languages), we will rely on relative comparison here.

Collostructional analysis by Colleman (2010, 284) has shown that *vragen* is highly more attracted to the preferred PC construction than *toekennen* is, as was confirmed by Haemers (2012). Similarly, according to the collostructional analysis of the British ICLE corpus performed by Gries & Stefanowitsch (2004, 106), *ask* is more distinctive for the DO construction than *award* is. Unfortunately, since these relative strengths would counterbalance each other, no clear hypothesis can be formulated for their relative transfer effects. Hence, we suggest that more verbs should be investigated and compared with exact values in future surveys.

Conclusion

Based on our two experiments, we can conclude that our Flemish EFL learners do indeed transfer verb-biased preferences to their English use of the dative alternation (either from their L1 or from the PC learner strategy), resulting in unidiomatic collostructional combinations. Unexpectedly though, the subject-related factor of linguistic proficiency did not seem to play a very important role as the collostruction use by our proficiency groups was highly similar, although the C group still performed slightly better than the B group, portraying a presumed higher level of collostructional knowledge although not sufficient to counter transfer- and learnereffects. Patterned language, and especially the dative alternation (due to its high degree of similarity in Dutch and English) thus indeed proves to be extremely challenging in L2 acquisition.

The hypothesized influence of verb-related factors, such as formal similarity, constraints in meaning and prototypicality, seemed only to be valid in the case of certain particular verbs. This is mainly due to the variable nature of our stimuli verbs, hence these factors would better be investigated in verbs of the relevant verb categories exclusively. Also, despite our efforts to conduct a nuanced and well-informed investigation, our research has some additional limitations (we have already discussed the flaws of both experiment methods in Chapter 3). First of all, we have only investigated one group of learners, in their behaviour in only one construction, without testing against a native speaker group (as this would have been way beyond the scope of this dissertation). This, a broader spectrum of learners, verbs and contexts, as well as a larger experimental group we suggest for future research, and cross-validating follow-up studies with different elicitation methods would be interesting too.

Nevertheless, we believe that our results are valuable, as they have confirmed empirically that constructional patterns, and also their collostructional preferences, are mastered inadequately in the L2 acquisition process and are influenced by the mother tongue (at least, in the acquisition of the dative alternation in Dutch EFL learners). Hence, it would be refreshing to acknowledge this in language instruction techniques, especially in the quest for nativelike idiomacy and eloquence, as teaching materials have often been held accountable for learners' collostructional ignorance (e.g. (Gilquin 2010)p267). One way to guard learners from transfer of learner strategy effects would be to increase the con-/collostructional awareness of both language teachers and learners.

Appendices
A. Stimulus sentences

Table 28   Overview stimulus sentences

Verb	English	Dutch	Correct version	"Incorrect" version
Announce	only PC	PC and DOC	*Tomorrow, Tom will announce <u>the news</u> to <u>his father.</u>*	**Tomorrow, Tom will announce <u>his father</u> <u>the news.</u>*
Explain	only PC	PC and DOC	*I explained <u>the story</u> to <u>my brother,</u> but he didn't understand.*	**I explained <u>my brother</u> <u>the story,</u> but he didn't understand.*
Cost	only DOC	PC and DOC	*This problem with the roof will cost <u>my grandfather</u> <u>20 euros.</u>*	**This problem with the roof will cost <u>20 euros</u> to <u>my grandfather.</u>*
Deny	only DOC	PC and DOC	*Obviously, they denied <u>the prisoner</u> <u>the cigarette.</u>*	**Obviously, they denied <u>the cigarette</u> to <u>the prisoner.</u>*
Ask	prefers DOC	prefers PC	*It will ask <u>the football team</u> <u>an extra effort</u> if they want to win this year.*	**It will ask <u>an extra effort</u> of <u>the football team</u> if they want to win this year.*
Award	prefers DOC	prefers PC	*The science committee awarded <u>my brother</u> <u>the trophy</u>.*	**The science committee awarded <u>the trophy</u> to <u>my brother.</u>*

Grant	DOC vs. learners prefer PC	DOC	*Because she asked nicely, the teacher granted <u>my sister</u> <u>the point.</u>*	**Because she asked nicely, the teacher granted <u>the point</u> to <u>my sister.</u>*
Send	DOC vs. learners prefer PC	DOC	*We've sent <u>our neighbour</u> <u>the invitation,</u> I hope that he will come.*	**We've sent <u>the invitation</u> to <u>our neighbour,</u> I hope that he will come.*
Sell (filler)	PC	PC	*She sold <u>my mother</u> <u>the blouse</u> for 10 dollars, which was really cheap!*	*She sold <u>the blouse</u> to <u>my mother</u> for 10 dollars, which was really cheap!*
Write (filler)	PC	PC	*On Valentine's Day, I will write <u>my boyfriend</u> <u>one letter,</u> and not three.*	*On Valentine's Day, I will write <u>one letter</u> to <u>my boyfriend,</u> and not three.*
Tell (filler)	DOC	DOC	*When I see her, I will tell <u>my older sister</u> <u>the good news.</u>*	*When I see her, I will tell <u>the good news</u> to <u>my older sister.</u>*
Teach (filler)	DOC	DOC	*My goal is to teach <u>children</u> <u>mathematics.</u>*	*My goal is to teach <u>mathematics</u> to <u>children.</u>*

B. Overview Examagram scores

Table 29   Examagram scores

Number of participants	Examagram CEFR level
n = 8	**C2 Mastery or proficiency: Examagram Score: 858 – 1000** At the top level the candidate can understand with ease virtually everything heard or read. They will be able to summarise information from different spoken and written sources, reconstructing arguments and accounts in a coherent presentation. They will be able to express themselves spontaneously, very fluently and precisely, differentiating finer shades of meaning even in the most complex situations. They will understand a vast number of idiomatic phrases, recognise the implications and tone behind their usage and be able to use them correctly according to the social setting. In many cases, candidates at this level will sound like a native English speaker and will have the vocabulary and grammatical skills to match. Some native English speakers may not achieve this level.
n = 12	**C1 Effective Operational Proficiency or advanced: Examagram Score: 715 - 857** At this advanced level the candidate can understand a wide range of demanding, longer texts, and recognise implicit meaning. They can express ideas fluently and spontaneously without much obvious searching for expressions. Their use language flexibly and effectively for social, academic and professional purposes. They will be able to produce clear, well-structured, detailed text on complex subjects, showing controlled use of organisational patterns, connectors and cohesive devices. Only when exposed to heavy accents and idiomatic language will the user struggle to understand. It is unlikely that the candidate will ever need assistance when talking in the English language. Their English competence is very high and in some cases they may even sound like a native English speaker.
n = 12	**B2 Vantage or upper intermediate: Examagram score: 572 - 714** At the upper intermediate level, the candidate can understand the main ideas of complex text on both concrete (practical) and abstract topics, including technical discussions in their field of specialisation. They can interact with a degree of fluency and spontaneity that makes regular interaction with native speakers quite possible without strain for either party. They will be able to produce clear, detailed text on a wide range of subjects and explain a viewpoint on a topical issue giving the advantages and disadvantages of various options. However, their limited

vocabulary and exposure to authentic English means they may be unable to catch finer details with regards to tone and implied meaning. It is expected that candidates at this level will be able to perform in the work place and their level of English should not heavily prohibit their ability to do their work. Occasionally, when working with groups of conversed native English speakers, the candidate may seek clarification on work meaning and on occasions they may struggle if the pace of conversation is very fast.

| n = 7 | B1 Threshold or intermediate: Examagram score: 429 – 571 |

At the lower intermediate level, the candidate can understand the main points of clear standard input on familiar matters regularly encountered in work, school, leisure, etc. They can deal most situations likely to arise while travelling in an area where the language is spoken. They are able to produce simple connected text on topics that are familiar or of personal interest. They will also be able to describe experiences and events, dreams, hopes and ambitions and briefly give reasons and explanations for opinions and plans. However, they will struggle to engage in conversations about more abstract topics. They will be able to understand simple texts, but will require guidance to understand authentic texts. It is expected that candidates at this level would be functional in their role (assuming that the English language is not fundamental to the role) but will require flexibility in their English communication from other colleagues.

| n = 1 | A2 Waystage or elementary: Examagram score: 246-428 |

At this level, the candidate understands sentences and frequently used expressions related to areas of most immediate relevance (e.g. very basic personal and family information, shopping, local geography, employment). They will be able to communicate in simple and routine tasks requiring a simple and direct exchange of information on familiar matters. The candidate will also be able to describe in simple terms aspects of his/her background, immediate environment and matters in areas of immediate need. They will understand the most commonly-used English vocabulary and be able to form simple sentences and questions, but will struggle to form or understand long or complex sentences. It is likely that the candidates at this level will need additional training if they are required to use the English language on a regular basis. Phone or group discussions will be difficult for this candidate.

n = 40

C. Overview results elicited imitation task

Table 30   Results elicited imitation task

	% correct pattern replicated		% incorrect pattern replicated		% incorrect pattern altered to correct pattern		% correct pattern altered to incorrect pattern	
	B	C	B	C	B	C	B	C
Announce	100%	94,4445%	50%	57,8947%	50%	42,1053%	0%	5,5556%
Explain	100%	89,4737%	85%	78,9474%	15%	21,0526%	0%	10,5263%
Cost	90%	95%	25%	15%	75%	85%	10%	5%
Deny	45%	75%	100%	73,6842%	0%	26,3158%	55%	25%
Ask	70,5882%	77,7778%	100%	88,2353%	0%	11,7647%	29,4118%	22,2222%
Award	78,5714%	84,2105%	82,3529%	85%	17,6471%	15%	21,4286%	15,7895%
Grant	66,6667%	83,3333%	88,2353%	88,2353%	11,7647%	11,7647%	33,3333%	16,6667%
Send	25%	50%	95%	90%	5%	10%	75%	50%
m	72,13%	81,00%	78,13%	72,13%	21,87%	27,88%	27,88%	19,00%
(sd)	(0,26471)	(0,14383)	(0,26766)	(0,25363)	(0,26766)	(0,25363)	(0,26471)	(0,14383)

* row totals will always be 200%: correct version (outer columns) 100%
+ incorrect version (middle columns) 100%

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
VAR00001	8	,25	1,00	,7213	,26471
VAR00002	8	,50	,95	,8100	,14383
VAR00003	8	,25	1,00	,7813	,26766
VAR00004	8	,15	,90	,7213	,25363
VAR00005	8	,00	,75	,2187	,26766
VAR00006	8	,10	,85	,2788	,25363
VAR00007	8	,00	,75	,2788	,26471
VAR00008	8	,05	,50	,1900	,14383
Valid N (listwise)	8				

D. Overview results sentence rating task

Table 31   Results sentence rating task: average score for Dutch pattern

	Preference for Dutch?	
	B	C
Announce	29,65	25,60
Explain	28,70	47,40
Cost	25,10	22,70
Deny	55,90	37,95
Ask	41,75	54,15
Award	69,70	58,40
Grant	54,85	55,60
Send	63,85	43,00
m (sd)	46,1875 (17,22892)	43,1000 (13,52181)

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
VAR00001	8	25,10	69,70	46,1875	17,22892
VAR00002	8	22,70	58,40	43,1000	13,52181
Valid N (listwise)	8				

Table 32   Results sentence rating task: information from boxplots

	Preference for Dutch? (= median below 50)		% of scores below 50		% of scores above 50		Magnitude of preference for English (+) or Dutch (-) pattern: distance from 50 (estimated)	
	B	C	B	C	B	C	B	C
Announce	No	No	<25%	<25%	>75%	>75%	+24	+25
Explain	No	Neutral	0%	±50%	100%	±50%	+20	0
Cost	No	No	0%	0%	100%	100%	+25	+30
Deny	Yes	No	>50%	<25%	<50%	>75%	-16	+15
Ask	No	Yes	<50%	>50%	>50%	<50%	+10	-10
Award	Yes	Yes	>75%	>50%	<25%	<50%	-24	-10
Grant	Yes	Neutral	>50%	50%	<50%	50%	-13	0
Send	Yes	Neutral/No	>50%	±50%	<50%	±50%	-22	+1
	4/8	2/8					|m| = 19,25	|m| = 11,25

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