L2 English Influence on Acceptance of Grammatical and Ungrammatical Constructions in L1 Dutch

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Abstract

This study aims to discover whether Dutch-English bilinguals have a different acceptance rate of grammatical constructions and ungrammatical constructions involving preposition stranding in their L1 Dutch compared to Dutch monolinguals. Four different preposition stranding constructions were used: pronouns, Full-NP questions, topicalization, and passives. Participants were asked to respond to a questionnaire where they had to determine whether grammatical constructions and ungrammatical preposition stranding constructions were grammatical to them. A between subjects test was done and determined that bilinguals have a significantly higher acceptability rate of grammatical constructions in Dutch. This is in contrast with Balcom (2003) who determined that bilinguals have a lower acceptability rate of grammatical sentences in their native language compared to monolinguals. The four different stranding constructions were assessed differently by the two groups which suggests there is a degree of influence in reverse transfer. More research is needed to make firm conclusions.

Keywords: reverse transfer, multi-competence theory, preposition stranding, bilingualism

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Introduction

Language transfer has been a widely researched topic for decades, but the focus has largely been on the influence of L1 on L2 (Examples: Jiang, 2004; Major, 2008; Odlin, 1989; Ringbom, 1987, Jarvis & Pavlenko, 2002; Gass & Selinker, 1992). Odlin (1989) has described language transfer as the influence that occurs between the native language and the target language resulting from similarities or differences between the two languages. He added that language transfer affects all branches of linguistics including syntax (as quoted in Hummel, 2014). Errors made during the acquisition of L2, in both comprehension and production, can largely be ascribed to language transfer from the L1 (Hummel). The focus in research, therefore, has been on trying to figure out ways to accommodate the language learner in being more competent in their L2.

According to Cook (2016) this has resulted in a monolingual perspective on bilinguals where the research is based on trying to figure out why an L2 user does not succeed in using the L2 like a native speaker. A second language, in this sense, is something that is added to a first language. Cook argues for a bilingual perspective where the second language is part of larger language system together with the native language (2016). A theory that is based on this idea is Cook's multi-competence theory. The multi-competence theory generated many new research questions, one of them being about how reverse transfer works for multilinguals (Cook, 2012). Reverse transfer is known as the effect, or influence, L2 can have on L1 in multilingual minds (Cook, 2012). This paper will focus on the effect the L2 can have on the L1 for competent users of a second language.

Theoretical Framework

Multi-competence Theory

Cook introduced his multi-competence theory in the 1990s as an opposing language transfer theory to the one-way affair posed by Odlin and Gass & Selinker. Multi-competence is known

as “the knowledge of more than one language in the same mind” (2012, p.1). A multilingual should be seen as a different person from a monolingual given that a multilingual has at least two languages present in their mind. According to Cook these two languages will create a language “super-system” together instead of two systems isolated from each other (2003, p.2). Multi-competence supports the view that “one language’s gain is another language’s loss” which means that there is a “continuous interaction between the different languages” (2016, p. 10). The multi-competence theory argues that the knowledge of an L1 is different for monolinguals compared to multilinguals (2012; 2003). This creates a view that not only allows transfer from L1 to L2 but supports the idea that transfer can also happen in the opposite way: reverse transfer (Liu & Ni, 2016). Multi-competence opens the door to not only the influence of L1 on L2 but also the influence of L2 on L1, L3 on L2 and so on (Cook, 2016).

Traditionally it was believed that competence in L1 would reach a certain maturity and then would not change anymore (Liu & Ni, 2016). This view would suggest that the influence of L2 on L1 would be impossible after a certain age. Pavlenko (2000), however, found evidence that this influence is also present in late bilinguals. She acknowledges that this has not been examined extensively enough. The multi-competence theory would support the view that the age of initial exposure does not matter because it suggests that two languages form a system together with continuous interaction (Cook, 2016).

Reverse Transfer at the Syntactic Level

In the research into language transfer, syntactic transfer has been controversial because of varying results in empirical studies (Odlin, 1989). Studies that showed the most promising results were studies on word order, relative clauses, and negation. After Cook introduced his theory in the 90s, research was started in many different branches of linguistics to determine

whether reverse transfer existed (See Pavlenko, 2000 for a synthesis). The acquisition of syntax and the growth of knowledge regarding grammar is essential to language learning (Berkes & Flynn, 2016). Therefore it is an interesting branch of linguistics to examine for reverse transfer. Cook argues that the syntax of the L1 can be changed because of the second language of a speaker (2012).

Research in this field was done by Balcom (2003) who studied French bilinguals and monolinguals. She examined whether French-English bilinguals have different grammaticality intuitions about middle constructions in French compared to French monolinguals. Middle constructions in English are more "constrained" than in French (2003, p. 170). Balcom gives the following example by Fellbaum & Zribi-Hertz (p. 171).

(1) Le grec *se* traduit facilement.

*Greek translates *itself* easily.

The bilingual participants judged grammatical sentences less frequently as grammatical than monolinguals. This suggests that bilinguals have a different notion of grammaticality in their L1 influenced by their L2.

Preposition stranding

Even though prescriptivists have added additional requirements to written English, including the requirement that a sentence should not be ended with a preposition, preposition stranding is an accepted syntactical construction in English. Preposition stranding is a construction in which the object of a preposition is extracted leaving the preposition 'stranded' (Law, 2006). Two examples are given by Law in sentence (2) and (3). This construction is an alternative to pied-piping, in which the preposition is extracted together with the object (Bennis, 2000). An

example of this is given in sentence (4), where (a) shows the Pied Piped version and (b) shows the version with a stranded preposition.

(2) Which book$_i$ have they talked *about* t$_i$?

(3) That book$_i$ has been talked *about* t$_i$.

(4) Tim played with Sam

(a) *With whom* did Tim play?

(b) *Who* did Tim play *with*?

The reader might notice that sentence (2) and (3) are different forms of preposition stranding, the first one being an example of A'-movement and the second an example of A-movement (2006). English accepts both forms of preposition stranding, while Dutch only accepts preposition stranding under A'-movement. This paper will cover four ways in which Dutch and English differ on the use of preposition stranding: pronouns, pseudo-passives, topicalizations, and full-NP questions.

R-pronouns

It is unusual, and usually ungrammatical, for a Dutch sentence to have a preposition followed by a neuter pronoun (Bennis 2000; Zwarts, 1997). An example is given in sentence (5) where the preposition *van* is followed by the neuter pronoun *het* (example taken from Bennis). By replacing the neuter pronoun with an R-pronoun and, placing it in front of the preposition, it is possible to create grammatical sentences (see sentence (6)). Every neuter pronoun corresponds with an R-pronoun (2000).

(5) *Jan houdt *van het*.

Jan likes of it.

'Jan likes it'

(6) Jan houdt *daar van*.

Jan likes there of

'Jan likes that'

Another result of using R-pronouns in these sentences is the ability to move out of the PP and create a chance for Dutch sentences to have preposition stranding (1997). Zwarts provides the following example in (7) where the R-pronoun stays inside the PP and precedes the preposition and in (8) where the R-word leaves the PP and preposition stranding occurs.

(7) *Waar over* heb jij gepraat?

Where about have you talked?

'What did you talk about'

(8) *Waar* heb jij *over* gepraat?

Where have you about talked?

'What did you talk about?'

Preposition stranding of this form is ungrammatical in Dutch when R-pronouns are not used. In English it is not necessary to use R-pronouns. An example of this is given in sentence (9) where a non-R-pronoun is used to create a grammatical construction with a stranded preposition. Sentence (10) shows the use of the translated R-pronoun used in sentences (7) and (8).

(9) *What* are you talking *about*?

(10) **Where* are you talking *about*?

Lack of Pseudo-Passives

Another way in which Dutch differs from English in the stranding of prepositions is in the use of pseudo-passives (Broekhuis, 2013) An example is given by Broekhuis.

(11) These topics$_i$ have been talked [$_{pp}$ about t_i] a lot.

a. *Deze onderwerpen$_i$ zijn veel [$_{pp}$ over t_i] gesproken.

These topics are much about talked

b. Er is veel over deze onderwerpen gesproken.

There is much about these topics talked

In Dutch it is impossible to use (11a) as a translation of (11) (2013). Therefore, the English pseudo-passive is ungrammatical in Dutch. Instead of using (11a), (11b) would be used in Dutch.

Topicalizations

Thirdly, the Dutch language has other ways in which an entire phrase is moved to the beginning of the sentence (Bennis, 2000). One of these is topicalization. The part of the sentence that is put at the beginning is the topic of the sentence, hence the term topicalization (2000).

Topicalization is an accepted syntactic construction in both English and Dutch. Bennis offers an example (12) without preposition stranding. Sentence (13) is provided by Van der Horst & Van de Velde (2008) and contains the stranding of the preposition *van*. Sentence (14)

shows the translation of sentence (12) which results in a grammatical topicalized sentence in English. Sentence (15) is a grammatical sentence in English involving both topicalization and preposition stranding.

(12) *Om half acht 's ochtends* heeft hij haar een aanzoek gedaan.

(13) ?*Bananen* houd ik niet zo van.

(14) *At half past seven in the morning* he proposed to her.

(15) *That sport* the Queen of England competes in.

In Dutch the stranding of a preposition in topicalized sentences is only possible with the use of an R-pronoun (Broekhuis, 2000; Bennis, 2013). Sentence (13) does not contain an R-pronoun this makes it ungrammatical based on the theory. Van der Horst & Van de Velde call a sentence like sentence (13) a banana sentence (*bananenzin*). It is considered grammatical because it is found in corpora studied by Van der Horst & Van de Velde (2008). Broekhuis mentions that the R-pronoun in this sentence may not be present but is implicit. Sentence (16) shows the sentence including the R-pronoun *daar*.

(16) Bananen *daar* houd ik niet zo van.

Both Broekhuis and Van der Horst & Van de Velde judge sentence (13) as grammatical or at least as not ungrammatical. In this study it is labelled ungrammatical to analyse the judgment of native speakers and because it is theoretically ungrammatical.

Full-NP questions

In this study a Full-NP question is a question sentence in which an entire WH-phrase is fronted. The extraction of a full WH-phrase resulting in preposition stranding is ungrammatical in Dutch as is shown in sentence (17a) (2013). It is possible to make the English sentence grammatical in Dutch by using Pied Piping.

(17) What topic is he talking about?

a. *Welk onderwerp praat hij over?

b. Over welk onderwerp praat hij?

Sentence (18) shows another way to create a grammatical Full-NP question in Dutch. This is a grammatical full-NP sentence without preposition stranding in Dutch.

(18) Welke mensen wonen er naast je?

Establishing Place of Research

This study aims to contribute to the research regarding L2 influence on L1. When compared to other branches of linguistics, syntax remains a less-researched topic in the field of reverse transfer. This study is designed to see whether bilinguals differ in their acceptance of both grammatical and ungrammatical constructions in their L1 compared to monolinguals.

Preposition stranding is chosen for two reasons. Firstly because of the apparent difference between the L1 and L2 of Dutch-English bilinguals. And secondly, because of the many different forms of preposition stranding. Preposition stranding constructions with pronouns are grammatical in both Dutch and English, but in Dutch an R-pronoun is needed to make it grammatical. Preposition stranding in pseudo-passive constructions is possible in

English but impossible in Dutch. For topicalization sentences the difference is subtler. Both Dutch and English allow topicalization, but Dutch is undecided on the stranding of a preposition without an R-pronoun. For Full-NP questions the difference between Dutch and English is that in English an NP can be fronted without the preposition, but in Dutch the preposition moves to the front as well which does not allow preposition stranding.

Research Questions

On the basis of the theoretical framework drawn up above, this paper will investigate and draw conclusions for the following research questions:

1. *Do bilinguals have a different acceptance rate of constructions involving preposition stranding in Dutch compared to monolinguals?*
    a. Do bilinguals have a different acceptance rate of *grammatical* constructions in Dutch compared to monolinguals?
    b. Do bilinguals have a different acceptance rate of *ungrammatical* constructions involving preposition stranding in Dutch compared to monolinguals?
2. *Do bilinguals have a different acceptance rate of individual constructions involving preposition stranding in Dutch compared to monolinguals?*
    a. Do bilinguals have a different acceptance rate of *topicalization constructions* involving preposition stranding compared to monolinguals?
    b. Do bilinguals have a different acceptance rate of *full-NP questions constructions* involving preposition stranding compared to monolinguals?
    c. Do bilinguals have a different acceptance rate of *pronoun constructions* involving preposition stranding compared to monolinguals?
    d. Do bilinguals have a different acceptance rate of *passive constructions* involving preposition stranding compared to monolinguals?

The bilingual group will be modelled by students of English (henceforth the B-group) and the monolingual group will be modelled by other students (henceforth the M-group). These two groups have a supposed difference in their use and level of English. This division is explained further in the Method section.

The ungrammatical constructions in this study all involve preposition stranding, but the grammatical constructions do not. One exception is made with the syntactical construction using pronouns where preposition stranding is legal in Dutch using R-pronouns.

The first research question will focus on the over-all acceptance of preposition stranding in ungrammatical constructions and other grammatical constructions in Dutch. The hypothesis for (1a) is that the B-group will have a lower acceptance rate compared to the M-group. This is hypothesized on the basis of Balcom's study with French-English bilinguals (2003). The hypothesis for (1b) is that the B-group will have a higher acceptance rate compared to the M-group. This was done on the basis of the influence L2 on L1 posed by the multi-competence theory and the ungrammatical sentences in Dutch are sentences that would be grammatical in L2 English.

The second research question will focus on the acceptance of the individual constructions separately and will also study grammatical and ungrammatical constructions. On the basis of the multi-competence theory there is one hypothesis for (2a), (2b), (2c), and (2d). Multi-competence theory implies that influence effects all of language and does not differentiate between different syntactical constructions. It is hypothesized that the B-group will have a higher acceptance rate compared to the M-group in all different constructions.

Method

Participants

For the purpose of this study 46 students or recent graduates of Dutch universities or universities of applied sciences were found who voluntarily took part in this research (Initial participant count was 57, 11 were discarded. See Results section). No compensation was provided. All participants were between the ages of 18-25. The participants were assigned to one of two subgroups based on their previous or current education: the B-group or the M-group. The B-group modelled the bilingual group and the M-group modelled the monolingual group. The B-group group was formed by students who hold a degree in English Language and Culture at Utrecht University and students who attended University College Utrecht (UCU). The M-group group was formed by the other participants.

Materials

A questionnaire was made with the online tool *survio.com* (For the original version and a translated copy of the questionnaire see Appendix A & B). 20 sentences were created. Eight of these sentences were the relevant sentences to the study (test sentences, T-sentences), this included four different sets of grammatical and ungrammatical constructions. A pilot study was conducted to establish whether the questionnaire gave the right results. The first version was altered according to points raised by participants in the pilot study. This resulted in the questionnaire used in the study.

Firstly, there was a set of a grammatical construction and ungrammatical construction using pronouns (Table 1). Sentence (1) uses the R-pronoun *waar* which is needed in Dutch to create grammatical preposition stranding. Sentence (2) does not use a relevant R-pronoun but uses the pronoun *wat* and is therefore ungrammatical in Dutch.

Secondly, a set of grammatical and ungrammatical topicalization constructions in Dutch (Table 1). Sentence (3) is a grammatical Dutch sentence using topicalization with no preposition stranding involved. Sentence (4) does involve the stranding of the preposition *op*, which would make the sentence ungrammatical considering there is no R-pronoun. As mentioned in the Theoretical Framework the ungrammaticality of this sentence, known as banana sentence, is in question.

Thirdly, a set of grammatical and ungrammatical passive constructions in Dutch (Table 1). Again, the ungrammatical construction (6) contains preposition stranding that is ungrammatical in Dutch. The grammatical construction (5) also uses preposition stranding but there is agreement between the verb and the subject. The grammaticality of this sentence will be discussed further in the Results and in the Discussion.

And finally, a set of grammatical and ungrammatical questions in which the complete wh-NP was moved to the front of the sentence (Table 1). In this case the ungrammatical construction (8) strands a preposition (*over*) and the grammatical construction (8) does not.

The other 16 sentences were used as fillers but some were created with a certain purpose (for filler sentences see Appendix A and B) Five sentences were created without further purpose. These sentences were regular were regular grammatical sentences (Appendix A and B: no. 1, 5, 8, 10, 15). Nine sentences were created to make participants believe they were taking part in a study concerning language decay (*taalverloedering*). Seven of these sentences were labelled ungrammatical (no. 2, 7, 13, 16, 18) and two were labelled grammatical (no. 19, 20). These sentences were chosen on the basis of recent discussions

about style issues in Dutch. The constructions *hun*[1], *groter als*[2], *irriteren aan*[3], *als mij*[4] were all used in the ungrammatical sentences. In the grammatical filler sentences the English word *timing* and the Dutch words *zeg maar*[5] were used.

Table 1 *All T-sentences*

Pronoun	Grammatical (1)	Dutch	Waar praat je over?
		English	Where talk you about? (*What are you talking about?*)
	Ungrammatical (2)	Dutch	*Wat kijk je naar?
		English	What look you at? (*What are you looking at?*)
Topicalization	Grammatical (3)	Dutch	In Edinburgh heeft hij haar een boek gegeven.
		English	In Edinburgh has he her a book given. (*In Edinburgh he has given her a book.)*
	Ungrammatical (4)	Dutch	?Bananen ben ik dol op.
		English	Bananas am I crazy about. (*I am crazy about bananas.)*
Passive	Grammatical (5)	Dutch	Deze plaatsen is veel in gevochten.
		English	These places is often in fought. (*These places have been fought in a lot.*)
	Ungrammatical (6)	Dutch	*Deze onderwerpen zijn veel over gesproken.
		English	These topics are much about talked. (*These topics have been talked about a lot.*)
Full NP questions	Grammatical (7)	Dutch	Welke mensen wonen er naast je?
		English	Which people live there next you? (*What people are living next to you?*)
	Ungrammatical (8)	Dutch	*Welk onderwerp praat hij over?
		English	Which topic talks he about? (*What topic is he talking about?*)

[1] *Hun* cannot be used as a subject of the sentence in Dutch. For more information (Dutch) see: https://onzetaal.nl/taaladvies/hun-hebben-zij-hebben

[2] The dutch construction *groter dan* 'bigger than' is seen as more grammatical when comparing two things although *groter als* 'bigger as' is becoming more and more accepted. For more information (Dutch) see: https://onzetaal.nl/taaladvies/groter-als-groter-dan/ .

[3] The verb *irriteren* (to irritate) should be combined with a direct object, in this sentence another verb should be used, namely ergeren (to annoy), that combines with an indirect object. For more information (Dutch) see: https://onzetaal.nl/taaladvies/ik-irriteer-erger-me-aan-haar/

[4] *Als mij* is seen as less grammatical in this situation than the construction *als ik*, just as in *groter als* this occurs when you are comparing two things.

[5] An equivalent of the English filler 'like'. Known for its use amongst younger people.

Design

This research used a between-groups design. Participants were put into two different groups: the B-group and the M-group. These two groups will be compared based on the dependent variable. The dependent variable is the acceptance rate of a sentence, and the independent variable is the level of English, modelled by the education of the participants. This division was chosen because students of English are assumed to have a higher command of English compared to their fellow students. The monolingual group was made up of other students who are in the same age group as the students of English. This was done to create a situation in which the two groups only differed on their use and supposed level of English.

Figure 1 *Sample Question; translation: These topics are often talked about.* Select one answer. (*Star was added to indicate participants had to answer the question to continue)*

Procedure

Participants were asked to complete a questionnaire with 20 sentences. Figure 1 shows an example of a sentence and its possible answers. For all sentences participants were asked to say whether they could use the sentence themselves (Literal instruction in Dutch: *Geef voor elk van de volgende zinnen aan of jij ze zou kunnen gebruiken.* 'Indicate for each of these sentences whether you could use them'). The reason for this wording is twofold. Firstly it was vital for the research to make sure people were not judging the sentences based on their knowledge of grammar but on their own acceptance of the grammatical constructions. Secondly it was important to make sure participants judged sentences based on their own

usage and not on what they might hear around them. This was important because the participants were put into groups based on their level of English and therefore their own supposed usage of preposition stranding was more important than that of their surroundings.

Participants could choose between the following answers; yes, no and don't know. *Yes* indicated that they could use the sentence, *no* indicated that they would not and *don't know* was added as a neutral option. The answers given by the participants are categorical data and were given labels for use in R (0, 1, and 2).

The participants were contacted online and given the website link where they could find the questionnaire. This way the participants could do the task wherever they wanted. This was done to ensure that many participants could be found that wanted to participate in the research. A password that was needed to enter the questionnaire was only given to participants who agreed to participate in the research. Participants were also asked for their age, their level of education, and whether they did a degree in English Language or attended University College Utrecht (UCU). A program was created in R for the purpose of this study to analyse the participant data (code can be found in Appendix C, coded in RStudio). This resulted in the data found in the Results section.

Results

This paper presents two analyses of the resulting data, based on the research question. First, both groups will be compared on overall acceptance of grammatical and ungrammatical T-sentences. Secondly, the two groups will be compared on the basis of their acceptance of grammatical and ungrammatical sentences in the four different sentence types introduced in the Theoretical Framework.

Statistical Test and Participants

The statistical test used in the general acceptance of T-sentences will be the Chi-squared test. This test assesses whether the two groups differ significantly in their answers. The statistical test used in the specific sentence type cases will be the Fisher's Exact Test. This test is often used as an alternative for the Chi-squared test when sample-sizes are small. Because both statistical tests are used with contingency tables, Fisher's Exact Test must also be used when there are low numbers in more than one of the cells in the table. For both tests we will employ a significance value of $\alpha = 0.05$. A low p-value (< 0.05) will indicate that the differences between the answers in the two groups are significant, a higher p-value (≥ 0.05) indicates that the difference between the two groups is non-significant.

After ending the questionnaire there were 57 participants who completed the entire questionnaire. Of the 57 participants 11 participants did not meet the standards mentioned in the method section. They were either older than 25 or they did not study at a university or university of applied sciences. These participants were rejected from the set of participants. Table 2 lists the present participant count.

Table 2 *Participant count*

Group	**B-group**	**M-group**	**TOTAL**
N	23	23	46

Analysis of T-sentences

With 23 participants in both groups and 4 different sets of grammatical and ungrammatical T-sentences, there is a data-set of 92 (23 times 4) responses per category of grammatical and ungrammatical sentences. Table 3 shows the results of all T-sentences together.

Table 3 *Results All T-Sentences*

		B-group			M-group		
T-Sentences		**Yes**	**No**	**Don't Know**	**Yes**	**No**	**Don't Know**
Grammatical	N	53	38	1	49	34	9
	(%)	(57.6)	(41.3)	(1.1)	(53.3)	(37)	(9.7)
Ungrammatical	N	22	66	4	13	74	5
	(%)	(23.92)	(71.73)	(4.35)	(14.13)	(80.43)	(5.44)

The acceptance of grammatical sentences is only 57.6% for the B-group and 53.3% for the M-group. The overall answers (*yes, no, don't know*) given for grammatical sentences were significantly different between the two groups ($\chi^2 = 6.7791$, 2 d.f., $p = 0.03$). The acceptance of ungrammatical sentences is 23.92% for the B-group and 14.13% for the M-group. To compute a significance test for the ungrammatical sentences the *don't know* answer had to be discarded because of the low numbers for both *don´t know* cells. The remaining answers (*yes, no*) resulted in a non-significant difference between the two groups ($\chi^2 = 2.1729$, 1 d.f., $p = 0.1405$). Because the *don't know* answers comprise 9.8% of the total answer given (4.4% in the B-group, 5.4% in the M-group), a Fisher's Exact Test was also conducted with the don't know answers included, and this also gave a non-significant result ($p = 0.2754$).

Analysis of Different Sentence Types

All 46 participants completed four different sets of sentence types in their respective group. Firstly, an analysis was made of the responses to grammatical sentences (Table 4). In topicalization sentences and sentences with full-NP questions the B-group had a higher acceptance rate of the grammatical sentences. The M-group had a higher acceptance rate in the pronoun sentences, and in the passive sentences the B-group and the M-group had an

equal acceptance rate. The difference in acceptance (*yes* answers, shaded in Table 4) is not significant, with p = 0.72, between the two groups.

Table 4 *Grammatical T-Sentences broken down into categories (table-layout based on table in Balcom (2003, p. 178))*

Sentence Type	**Group**	**Yes**		**No**		**Don't Know**		**Total**
		N	(%)	N	(%)	N	(%)	N
Topicalization	B-group	20	(86.96)	3	(13.04)	0	(0)	23
	M-group	17	(73.91)	3	(13.04)	3	(13.04)	23
Full NP questions	B-group	16	(69.57)	7	(30.43)	0	(0)	23
	M-group	11	(47.83)	8	(34.78)	4	(17.39)	23
Pronoun	B-group	16	(69.57)	7	(30.43)	0	(0)	23
	M-group	20	(86.96)	3	(13.04)	0	(0)	23
Passive	B-group	1	(4.35)	21	(91.3)	1	(4.35)	23
	M-group	1	(4.35)	20	(86.96)	2	(8.7)	23
TOTAL	B-group	53	(57.6)	38	(41.3)	1	(1.1)	92
	M-group	49	(53.3)	34	(37)	9	(9.7)	92

Table 5 *P-values for difference between B-group and M-group*

	p-value
Topicalization	0.375
Full NP question	0.106
Pronoun	0.2837
Passive	1

None of the four sentence types show a significant difference between the two groups in grammatical sentences using Fisher's Exact Test (see Table 5). Figure 2 shows the percentage of acceptance (*yes* answers) for all four sentence types and the total percentages of

acceptance. Striking is the acceptance rate of the grammatical passive sentence, only 4.35% of the participants in both groups thought the construction acceptable. Because of these results the grammatical sentence with the passive construction was reanalysed and it became clear that the sentence should not have been included in the research as being grammatical (see sentence (19) for the grammatical passive sentence). This will be discussed later in this paper.

(19) *Deze plaatsen is veel in gevochten.

These places is often in fought.

'These places have been fought in a lot'

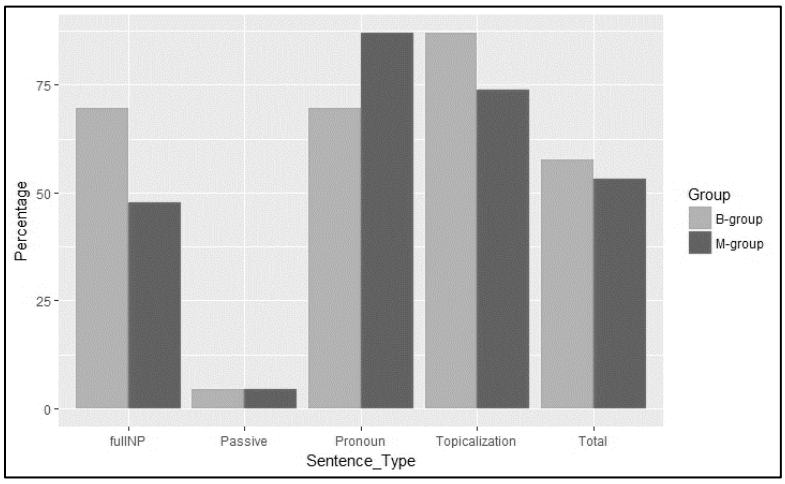

Figure 2 *Percentage of yes-answers for the different constructions of Grammatical Sentences*

Secondly the ungrammatical T-sentences were analysed (Table 6). For all sentence types the B-group had a higher acceptance rate than the M-group. The difference in acceptance (*yes* answers, shaded in Table 6) is not significant, with p = 0.56, between the two groups. Again, none of the separate sentence types resulted in a significant difference between the two groups using Fisher's Exact Test (see Table 7).

Table 6 *Ungrammatical T-Sentences broken down into categories (table-layout based on table in Balcom (2003, p. 178))*

Sentence Type	**Group**	**Yes**		**No**		**Don't Know**		**Total**
		N	(%)	N	(%)	N	(%)	N
Topicalization	B-group	7	(30.43)	14	(60.87)	2	(8.7)	23
	M-group	4	(17.39)	18	(78.26)	1	(4.35)	23
Full NP questions	B-group	11	(47.83)	11	(47.83)	1	(4.35)	23
	M-group	9	(39.13)	12	(52.17)	2	(8.7)	23
Pronoun	B-group	1	(4.35)	21	(91.3)	1	(4.35)	23
	M-group	0	(0)	22	(95.65)	1	(4.35)	23
Passive	B-group	3	(13.04)	20	(86.96)	0	(0)	23
	M-group	0	(0)	22	(95.35)	1	(4.35)	23
TOTAL	B-group	22	(23.92)	66	(71.73)	4	(4.35)	92
	M-group	13	(14.13)	74	(80.43)	5	(5.44)	92

Table 7 *P-values for difference B-group and M-group ungrammatical sentences*

	p-value
Topicalization	0.4711
Full NP question	0.818
Pronoun	1
Passive	0.233

Figure 3 gives the percentage of the acceptance of the four different sentence types and the total acceptance. This shows that the acceptance of the ungrammatical sentence with a full-NP question has the highest acceptance rate for both the B-group and the M-group (see sentence (20)).

(20) *Welk onderwerp praat hij over?

Which topic talks he about?

'What topic is he talking about?'

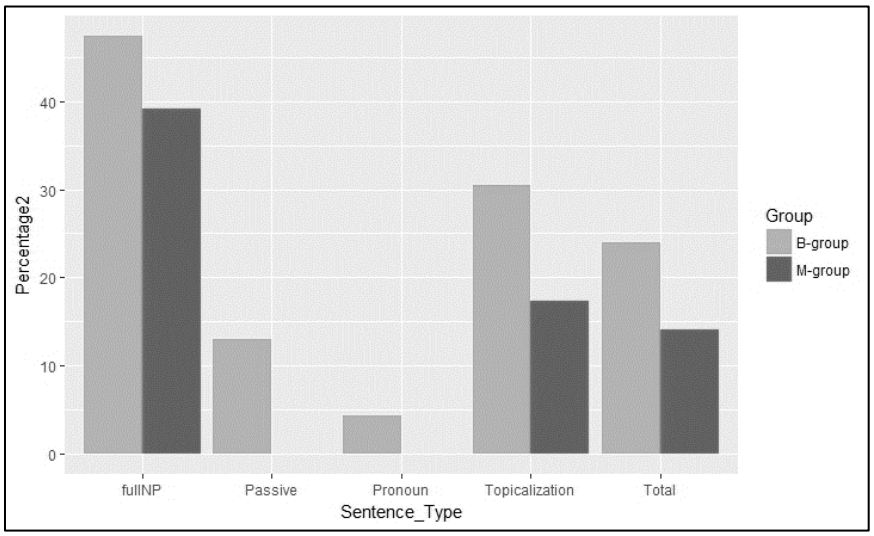

Figure 3 *Percentage of yes-answers for the different constructions of Ungrammatical Sentences*

Discussion

The current study aimed to establish whether participants in the B-group had a higher acceptance rate off grammatical constructions and ungrammatical preposition stranding constructions in Dutch compared to participants in the M-group. It was hypothesized that the B-group would have a lower acceptance rate of grammatical constructions in Dutch and a higher acceptance rate of ungrammatical preposition stranding constructions compared to the M-group. In addition to that, the study used four different syntactical constructions: topicalization, full-NP questions, passive, and pronoun. It was hypothesized that the B-group would have a higher acceptance rate in all four sentence constructions compared to the M-group.

All T-sentences

The results presented above seem to show that Dutch-English bilingualism has a significant effect on the acceptance of grammatical constructions in L1 Dutch. This does not follow the results presented by Balcom (2003) where monolinguals had a higher acceptance rate than bilinguals. Bilingualism does not seem to have a significant effect on the acceptance of ungrammatical constructions involving preposition stranding. These results would suggest that the different knowledge of bilinguals (Cook, 2003; 2012) supports the L1 instead of weakening it through the influence of the second language.

A possible limitation of the entire study is the group division with the students of English modelling the bilingual group in this sense and the other students modelling the monolingual group. Students of English may already have a higher interest in language and this might have caused a metalinguistic ability that native speakers without much interest in their language might lack. Another striking result is that the grammatical constructions do not receive a an acceptance rate of about 100%, but 57.6% for the B-group and 53.3% for the M-group. This might have been caused by the use of a incorrect sentence in the grammatical set.

(21) *Deze plaatsen is veel in gevochten.

These places is often in fought.

‘These places have been fought in a lot’

After analysis of the results, sentence (21) was exposed as an ungrammatical sentence. Because of its low acceptance rate in both groups (4,35%) this affected the overall acceptance scores. Without the passive construction the overall acceptance scores are 75.36% for the B-group and 69.57% for the M-group. For future research sentence (22) is suggested as a grammatical passive sentence.

(22) De leerling wordt door de leraar geholpen.

The student is by the teacher helped.

'The student is helped by the teacher.'

Without the passive construction the difference in acceptance between the B-group and the M-group for grammatical constructions is still significant ($p = 0.019$).

Different syntactical constructions

No significant difference between the B-group and the M-group was found in any of the four constructions in both the grammatical and ungrammatical constructions. The B-group judged all sentences in the ungrammatical constructions more grammatical than the M-group. This follows the hypothesis and seems to suggest that participants of the B-group have a higher acceptance rate of ungrammatical preposition stranding in Dutch. Figure 3 does show a difference in acceptance between the constructions. The Full-NP question (47.83% for the B-group and 39.13% for the M-group) and the topicalization sentence (30.43% for the B-group and 17.39% for the M-group) are judged more grammatical than the passive sentence (13.04% for the B-group and 0% for the M-group) and the pronoun sentence (4.35% for the B-group and 0% for the M-group). This is a striking find because it suggests that both groups have a higher acceptance rate for the ungrammatical full NP sentence than for the ungrammatical topicalization sentence mentioned by Van der Horst & Van de Velde (2008) and Broekhuis (2013). The results suggest that there is a difference of acceptance between different syntactical constructions. This is not covered in the multi-competence theory advocated by Cook (2003; 2012). Further research into different syntactic constructions could complement the multi-competence theory.

Conclusion

The results seem to follow the multi-competence theory coined by Cook only partly (2003; 2012). The different knowledge of L1 of multilinguals argued for by Cook seems to be reflected in the significant difference between the M-group and B-group in the acceptance of the grammatical constructions in Dutch. The theory does not appear to hold in the results found in ungrammatical constructions. It was hypothesized that there would be a higher acceptance of ungrammatical constructions by the B-group compared to the M-group but there is no significant difference between the two groups.

The different sentence constructions were not significantly different between the two groups. Nonetheless the B-group seems to be more accepting of ungrammatical sentences than the M-group (Figure 3). Additionally there seems to be a difference in acceptance between the four constructions. This might be due to the different forms and the different degree of difference between English and Dutch of the constructions (as discussed in the Theoretical Framework). These results seem to suggest that different syntactical structures have a different degree of influence on the bilingual speakers in this study. This is not covered in the more general theory coined by Cook. More research could add an extra level, specifically that of degree of influence to the theory and also have room to account for difference between constructions.

More research is needed to be able to draw firm conclusions. Further research should include a new grammatical passive sentence like the one suggested in sentence (21). The use of a true monolingual group and a true bilingual group. This would give a clearer result than the modelling used in this study because of the more apparent distinction between the two groups. For instance a monolingual should not know any other language except from the native language, and a bilingual would have to be raised bilingually from infancy. Additionally, the significant result found in this study should be investigated further to decide

what the reasons for this may be. The results do seem to suggest two trends between the two groups. The B-group seems to have a higher acceptance rate for grammatical constructions in Dutch. And secondly, the two groups show different rates of acceptance between the different sentence construction used in this paper: topicalization, full-NP questions, passive, and pronouns.

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Appendices

Appendix A: Questionnaire Dutch

Beste deelnemer,

Deze vragenlijst is onderdeel van mijn opleiding aan de Universiteit Utrecht. Enorm bedankt dat je mij wilt helpen.

Je krijgt nu 20 zinnen te zien.

Wil je voor elk van deze zinnen aangeven of jij deze zou kunnen gebruiken?

De vraag is of en waarin de taal van jongeren afwijkt van de Nederlandse Standaardtaal. Het gaat er dus echt om wat jij goed vindt, of wat jij zou kunnen gebruiken. Er zijn geen foute antwoorden.

De antwoordmogelijkheden zijn: ja/nee/weet niet.

Nogmaals bedankt.

Naomi Langstraat

1. De hond van de buren blaft vaak. (Grammaticaal)
2. Hun lopen steeds sneller. (Ongrammaticaal)
3. Welke buren wonen er naast je? (Volle-NP)
4. Deze onderwerpen zijn veel over gesproken. (Pseudo-passive)
5. De dieren in de dierentuin zijn zielig. (Grammaticaal)
6. Wat kijk je naar? (Pronomen)
7. Is je broertje groter als je zusje? (Ongrammaticaal)
8. De grap is allang voorbij. (Grammaticaal)
9. In Inverness heeft hij haar een boek gegeven. (Topicalisatie)
10. Ik neem het terug! (Grammaticaal)
11. Waar praat je over? (Pronomen)
12. De boeken kijk ik naar. (Topicalisatie)

13. Obama was ooit net zo slim als mij. (Ongrammaticaal)

14. Deze plaatsen is veel in gevochten. (Pseudo-passive)

15. Weet je zeker dat je daar heen wilt? (Grammaticaal)

16. Ik irriteer me enorm aan hem. (Ongrammaticaal)

17. Welk onderwerp praatte hij over? (Volle-NP)

18. Kunnen we dit overnieuw doen? (Ongrammaticaal)

19. Lekkere timing weer! (Grammaticaal)

20. Dit onderzoek is zeg maar bijna klaar. (Grammaticaal)

Appendix B: Questionnaire English (translation)

Dear participant,

This questionnaire is part of my degree at Utrecht University. Thank you very much for helping me out.

You will now see 20 sentences.

Would you please indicate for each of these sentences whether you could use them?

The question is whether and how the language of younger people differs from Standard Dutch. It is really about what you think is good and what you would use. There are no wrong answers.

The possible answer are: yes/no/don't know

Thank you again,

Naomi Langstraat

1. The dog of the neighbours barks often. (Grammatical)
2. They walk faster and faster. (Ungrammatical)
3. What people live next to you? (Full-NP question)
4. These topics have been talked about often. (Pseudo-passive)
5. The animals in the zoo are pitiable. (Grammatical)
6. What are you looking at? (Pronoun)
7. Is your brother bigger than your sister? (Ungrammatical)
8. The joke is already over. (Grammatical)
9. In Inverness he gave her a book. (Topicalization)
10. I take it back! (Grammatical)
11. What are you talking about? (Pronoun)
12. Bananas I am fond of. (Topicalization)

13. Obama was just as clever as me. (Ungrammatical)

14. These places have been fought in a lot. (Pseudo-Passive)

15. Are you sure you want to go there? (Grammatical)

16. I am irritated by him. (Ungrammatical)

17. What topic did he talk about? (Full-NP question)

18. Can we do this again? (Ungrammatical)

19. Nice timing again! (Grammatical)

20. This study is, like, almost over. (Grammatical)

Appendix C: R-Code for Results

```
###       CODE BA THESIS       ###

### Importing Results ###

work_dir <- "C:/Users/naomi/Desktop/Thesis/R_Thesis"

setwd(work_dir)

resultTable <- read.csv("Results_Study.csv",header = TRUE)

resultTableBili <- resultTable[resultTable$Category != "None",]

resultTableMono <- resultTable[resultTable$Category == "None",]

resultTableBili1825 <- resultTableBili[resultTableBili$Age == "18-25",]

resultTableMono1825 <- resultTableMono[resultTableMono$Age == "18-25",]

resultTableMono1825HBOWO <- resultTableMono1825[resultTableMono1825$Education
== "HBO" | resultTableMono1825$Education == "WOMaster" |
resultTableMono1825$Education == "WOBachelor" ,]

library(plyr)

require(plyr)
```

Calculations

###Bilinguals###

#Topicalisatie#

count(resultTableBili1825$X8) #0 - 3; 1 - 20 (Grammaticaal: Nee: 13.04%, Ja: 86.96%)

count(resultTableBili1825$X11) #0 - 14; 1 - 7; DK - 2 (Ongrammaticaal: Nee: 60.87%, Ja: 30.43%, DK: 8.69%)

#Volle NP#

count(resultTableBili1825$X2) #0 - 7; 1 - 16 (Grammaticaal: Nee: 30.43%, Ja: 69.57%)

count(resultTableBili1825$X16) #0 - 11; 1 - 11; DK - 1 (Ongrammaticaal: Nee: 47.83%, Ja: 47.83%, DK: 4.35%)

#Pronomen#

count(resultTableBili1825$X10) #0 - 7; 1 - 16 (Grammaticaal: Nee: 30.43%, Ja: 69.57%)

count(resultTableBili1825$X5) #0 - 21; 1 - 1; DK - 1 (Ongrammaticaal: Nee: 91.30%, Ja: 4.35%, DK: 4.35%)

#Passive#

count(resultTableBili1825$X13) #0 - 21; 1 - 1; DK - 1 (Grammaticaal: Nee: 91.30%, Ja: 4.35%, DK: 4.35%)

count(resultTableBili1825$X3) #0 - 20; 1 - 3 (Ongrammaticaal: Nee: 86.96%, Ja: 13.04%)

###Monolinguals###

#Topicalisatie#

count(resultTableMono1825HBOWO$X8) #0 - 3; 1 - 17; DK - 3 (Grammaticaal: Nee: 13.04%, Ja: 73.91%, DK: 13.04%)

count(resultTableMono1825HBOWO$X11) #0 - 18; 1 - 4; DK - 1 (Ongrammaticaal: Nee: 78.26%, Ja: 17.39%, DK: 4.35%)

#Volle NP#

count(resultTableMono1825HBOWO$X2) #0 - 8; 1 - 11; DK - 4 (Grammaticaal: Nee: 34.78%, Ja: 47.83%, DK: 17.39)

count(resultTableMono1825HBOWO$X16) #0 - 12; 1 - 9; DK - 2 (Ongrammaticaal: Nee: 52.17%, Ja: 39.13%, DK: 8.7%)

#Pronomen#

count(resultTableMono1825HBOWO$X10) #0 - 3; 1 - 20 (Grammaticaal: Nee: 13.04%, Ja: 86.96%)

count(resultTableMono1825HBOWO$X5) #0 - 22; DK - 1 (Ongrammaticaal: Nee: 95.65%, DK: 4.35%)

#Passive#

count(resultTableMono1825HBOWO$X13) #0 - 20; 1 - 1; DK - 2 (Grammaticaal: Nee: 86.96%, Ja: 4.35%, DK: 8.7%)

count(resultTableMono1825HBOWO$X3) #0 - 22; DK - 1 (Ongrammaticaal: Nee: 96.65%, Ja: 4.35%)

```
### Creating Tables ###

allSSentencesGram <- matrix(c(38,53,1,34,49,9),ncol=3,byrow=TRUE)

dimnames(allSSentencesGram) <- list(c("Bilingual", "Monolingual"), c("No", "Yes", "Don't Know"))

names(dimnames(allSSentencesGram)) <- c("Category","Acceptance")

## Research question 1 ##

chisq.test(allSSentencesGram)

allSSentencesGramNoPass <- matrix(c(17,52,0,14,48,7),ncol=3,byrow=TRUE)

dimnames(allSSentencesGramNoPass) <- list(c("Bilingual", "Monolingual"), c("No", "Yes", "Don't Know"))

names(dimnames(allSSentencesGramNoPass)) <- c("Category","Acceptance")

chisq.test(allSSentencesGramNoPass)

## Research question 1 no Passive ##

fisher.test(allSSentencesGramNoPass)

allSSentencesUnGram <- matrix(c(66,22,4,74,13,5),ncol=3,byrow=TRUE)

dimnames(allSSentencesUnGram) <- list(c("Bilingual", "Monolingual"), c("No", "Yes", "Don't Know"))

names(dimnames(allSSentencesUnGram)) <- c("Category","Acceptance")

## Research question 1 ##

chisq.test(allSSentencesUnGram)
```

```
topicalizationSentencesGram <- matrix(c(3,20,0,3,17,3),ncol=3,byrow=TRUE)

dimnames(topicalizationSentencesGram) <- list(c("Bilingual", "Monolingual"), c("No",
"Yes", "Don't Know"))

names(dimnames(topicalizationSentencesGram)) <- c("Category","Acceptance")


topicalizationSentencesUnGram <- matrix(c(14,7,2,18,4,1),ncol=3,byrow=TRUE)

dimnames(topicalizationSentencesUnGram) <- list(c("Bilingual", "Monolingual"), c("No",
"Yes", "Don't Know"))

names(dimnames(topicalizationSentencesUnGram)) <- c("Category", "Acceptance")


fullNPsentencesGram <- matrix(c(7,16,0,8,11,4),ncol=3,byrow=TRUE)

dimnames(fullNPsentencesGram) <- list(c("Bilingual", "Monolingual"), c("No", "Yes",
"Don't Know"))

names(dimnames(fullNPsentencesGram)) <- c("Category", "Acceptance")


fullNPsentencesUnGram <- matrix(c(11,11,1,12,9,2),ncol=3,byrow=TRUE)

dimnames(fullNPsentencesUnGram) <- list(c("Bilingual", "Monolingual"), c("No", "Yes",
"Don't Know"))

names(dimnames(fullNPsentencesUnGram)) <- c("Category", "Acceptance")
```

```
pronounSentencesGram <- matrix(c(7,16,0,3,20,0),ncol=3,byrow=TRUE)

dimnames(pronounSentencesGram) <- list(c("Bilingual", "Monolingual"), c("No", "Yes",
"Don't Know"))

names(dimnames(pronounSentencesGram)) <- c("Category", "Acceptance")


pronounSentencesUnGram <- matrix(c(21,1,1,22,0,1),ncol=3,byrow=TRUE)

dimnames(pronounSentencesUnGram) <- list(c("Bilingual", "Monolingual"), c("No", "Yes",
"Don't Know"))

names(dimnames(pronounSentencesUnGram)) <- c("Category", "Acceptance")


passiveSentencesGram <- matrix(c(21,1,1,20,1,2),ncol=3,byrow=TRUE)

dimnames(passiveSentencesGram) <- list(c("Bilingual", "Monolingual"), c("No", "Yes",
"Don't Know"))

names(dimnames(passiveSentencesGram)) <- c("Category", "Acceptance")


passiveSentencesUnGram <- matrix(c(20,3,0,22,0,1),ncol=3,byrow=TRUE)

dimnames(passiveSentencesUnGram) <- list(c("Bilingual", "Monolingual"), c("No", "Yes",
"Don't Know"))

names(dimnames(passiveSentencesUnGram)) <- c("Category", "Acceptance")


allUngramSentenceAcc <- matrix(c(7, 11, 1, 3, 4, 9, 0, 0),ncol = 4, byrow = TRUE)
```

```
dimnames(allUngramSentenceAcc) <- list(c("Bilingual", "Monolingual"), c("Top", "FullNP", "Pron", "Pass"))

names(dimnames(allUngramSentenceAcc)) <- c("Category", "Types")


chisq.test(allUngramSentenceAcc)

fisher.test(allUngramSentenceAcc)


allGramSentenceAcc <- matrix(c(20, 16, 16, 1, 17, 11, 20, 1),ncol = 4, byrow = TRUE)

dimnames(allGramSentenceAcc) <- list(c("Bilingual", "Monolingual"), c("Top", "FullNP", "Pron", "Pass"))

names(dimnames(allGramSentenceAcc)) <- c("Category", "Types")


allGramSentenceAccNoPass <- matrix(c(20, 16, 16, 17, 11, 20),ncol = 3, byrow = TRUE)

dimnames(allGramSentenceAccNoPass) <- list(c("Bilingual", "Monolingual"), c("Top", "FullNP", "Pron"))

names(dimnames(allGramSentenceAccNoPass)) <- c("Category", "Types")

allGramSentenceAccNoPass
```

```
### T-Tests ###

chisq.test(allGramSentenceAcc)

fisher.test(allGramSentenceAcc)

chisq.test(allGramSentenceAccNoPass)

chisq.test(topicalizationSentencesGram)

chisq.test(topicalizationSentencesGram, simulate.p.value = TRUE)

### Research Question 2 ###

fisher.test(passiveSentencesUnGram) #p = 0.2333

fisher.test(passiveSentencesGram) #p = 1

fisher.test(pronounSentencesUnGram) #p = 1

fisher.test(pronounSentencesGram) #p = 0.2837

fisher.test(fullNPsentencesUnGram) #p = 0.818

fisher.test(fullNPsentencesGram) #p = 0.106

fisher.test(topicalizationSentencesUnGram) #p = 0.4711

fisher.test(topicalizationSentencesGram) #p = 0.3754

fisher.test(allSSentencesGram) #p = 0.03618

fisher.test(allSSentencesUnGram) #p = 0.2754

chisq.test(allSSentencesGram) #X2 = 6.7791, df = 2, p = 0.03372

chisq.test(allSSentencesUnGram) #X2 = 2.8825, df = 2, p = 0.2366 WARNING
```

```
allSSentencesUnGramYesNo <- matrix(c(66,22,74,13),ncol=2,byrow=TRUE)

allSSentencesUnGramYesNo

dimnames(allSSentencesUnGramYesNo) <- list(c("Bilingual", "Monolingual"), c("No",
"Yes"))

allSSentencesUnGramYesNo

names(dimnames(allSSentencesUnGramYesNo)) <- c("Category","Acceptance")

allSSentencesUnGramYesNo

chisq.test(allSSentencesUnGramYesNo) #X2 = 2.1729, df = 1, p = 0.1405

fisher.test(allSSentencesUnGramYesNo) #p = 0.1301


### PLOTS ###

# library

library(ggplot2)

#data

#sentence types

Sentence_Type <- c(rep("Total", 2), rep("Topicalization", 2), rep("fullNP", 2), rep("Pronoun",
2), rep("Passive", 2))

#groups

Group <- rep(c("B-group", "M-group"), 5)

#percentages for grammatical sentences
```

```
Percentage <- c(57.6, 53.3, 86.96, 73.91, 69.57, 47.83, 69.57, 86.96, 4.35, 4.35)

#percentages for ungrammatical sentences

Percentage2 <- c(23.92,14.13,30.43,17.39,47.38,39.13,4.35,0,13.04,0)



df1 <- data.frame(Sentence_Type, Group, Percentage)

df2 <- data.frame(Sentence_Type, Group, Percentage2)



ggplot(df1, aes(fill=Group, y=Percentage, x=Sentence_Type), ylim(0,100)) +

  geom_bar(position="dodge", stat="identity")

ggplot(df2, aes(fill=Group, y=Percentage2, x=Sentence_Type), ylim(0,100)) +

  geom_bar(position="dodge", stat="identity")
```