# The use of Negative Polar Questions in English by Dutch Second Language Learners 

Eline Baks

Supervisor: Dr. Loes Koring
Second reader: Dr. Luisa Meroni

BA Thesis English Language and Culture Faculty of Humanities Utrecht University

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#### Abstract

The current study aimed to explore whether Dutch second language learners of English use low and high negative polar questions in the same way as native English speakers do. The use of negative polar questions depends on the context. It was experimentally tested whether Dutch second language learners of English use the right type of polar question in the right type of contexts. The results of the questionnaire showed that Dutch second language learners did not use low negation questions in a similar way to native English speakers. On the other hand, Dutch second language learners were able to use high negation and positive polar questions correctly in the corresponding contexts. However, Dutch second language learners seem to overuse the high negation polar questions, which is problematic for communication.


## 1. Introduction

English has become a crucial part of Dutch culture. The Dutch are currently known as one of the best second language speakers of English according to the English proficiency index (Education First proficiency index, 2018). Children start English education in primary school and secondary school students take English as an obligatory subject (Nuffic Dutch education system, 2015). Language education has many purposes, one of which is enabling communication between different countries and cultures. The individuals that will participate in this experimental research are advanced learners of English at the VWO level, who also follow the Cambridge Advanced English course and therefore strive for a near native competence (Europees Referentiekader Talen, 2010). This study will focus on the use of negative polar questions in English by Dutch second language learners. English has at least three types of polar questions, which are used in different contexts. The three types of polar questions this research will focus on are given in (1).
(1) a. Doesn't John drink? High negation question
b. Does John not drink? Low negation question
c. Does John drink? Positive question
(Romero, Arnhold, Braun \& Domaneschi, 2017. p.35)
This study will focus on whether Dutch second language learners use these forms of polar questions in a similar way to English native speakers. Making students aware of linguistic differences can help create a greater understanding of the target language as well as their native language. Students cannot be taught to avoid mistakes, but they can be taught on the properties of the target language and their native language and how those compare. Therefore, the outcomes of this research can be used to create such an awareness amongst Dutch second language learners about the influences their native language might have on the target language, which could ultimately lead to an improved competence.

Furthermore, an incorrect choice for a polar question can even lead to misunderstandings, which may cause communication problems. The following example could lead to miscommunication between two speakers. This example is a modified version of the example from Domaneschi, Romero and Braun (2017).
(2) Scenario: Lisa organises a party and she is in charge of supplying all the non-alcoholic beverages. Her mother made a list and she sees that her uncle is on the list. Lisa does not remember whether he drinks or not. She asks her mom:
a. *Wait, doesn't John drink?
b. Wait, does John not drink?
(Domaneschi et al., 2017. p. 3)

The first option (2a) carries a certain bias, for this scenario it would imply that Lisa originally believed that her uncle John drinks. If she uses option (2a) she will convey this bias towards
her mother. However, if Lisa used option (2b) it would be correct for this situation, since it does not carry a bias. The mother would misunderstand her daughter if she replied with option (2a), because of the bias it conveys. Therefore, it is important to discuss negative polar questions from a second language learner perspective. It is still unknown whether Dutch second language learners of English are able to use polar questions in a similar way to English native speakers. Therefore, based on previous research findings on native speakers of English, this study will explore the use of negative polar questions in English by non-native speakers of English.

## 2. Theoretical Background

### 2.1 Negative Polar Question Types

Ladd (1981) argued that the form of negative polar questions depends on the epistemic bias of the speaker. One epistemic bias is the original bias, which is a speaker's belief or expectation - possibly private, based on her epistemic state prior to the current situational context and conversational exchange as defined by Domaneschi et al. (2017). The second bias, contextual evidence bias is defined in Büring and Gunlogson (2000) as the expectation that $p$ is true induced by evidence that has just become mutually available to the participants in the current discourse situation. The following two scenarios (3) and (4), taken from Romero et al. (2017), illustrate the effect that the original bias and the contextual evidence have on the use of polar questions. In example (3) a lawyer is asking witnesses unbiased questions about whether the witness saw the culprit hit the victim. The example shows two answer options. Question (3a) is neutral with respect to the epistemic bias (no expectation that $p$ is true or false) and therefore compatible with the context, because this dialogue takes place in a court. The lawyer is supposed to ask unbiased questions. Therefore, Question (3b) would be inappropriate in the given context, because it would imply an original bias that $p$ (the addressee saw the culprit hit the victim) is true.
(3) Scenario: Lawyer asking unbiased questions in court.
a. Did you see the culprit hit the victim?
b. *Didn't you see the culprit hit the victim?
(Romero et al., 2017. p. 35)
In the next example (4), A stands for addressee and S stands for speaker. In this scenario A enters the windowless computer room of S wearing a dripping wet raincoat. S asks A what the weather is like outside. In this example there is contextual evidence (a dripping wet coat) for a certain proposition being true (that it is raining). There is no original bias for the proposition being true or false, because there are no windows in the room. In such a scenario, the neutral positive question (4a) can be used. Question (4b), however cannot be used, because there is evidence that it is raining.
(4) Scenario: A enters S’ windowless computer room wearing a dripping wet raincoat (contextual evidence for $p$ it is raining). $S$ says:
a. What's the weather like out there? Is it raining?
b. *What's the weather like out there? Is it not raining?
(Romero et al., 2017. p. 36)
The previous contexts naturally require a positive (polar) question, but some contexts require a negative polar question. As seen in example (1), negative polar questions are divided into two categories, low negation questions and high negation questions. This distinction is based on the position of negation in the questions, namely non-preposed and preposed. Example (5a) is an example of non-preposed negation, because the negation stays low. Example (5b) is an example of T to C movement, in which a clitic is attached to T . The earlier mentioned example is taken from Romero et al. (2017):
(5) a. Did John not drink? Low negation
b. Didn't John drink? High negation

This example illustrates a distinction between low and high negative polar questions on a syntactic level. However, there is also a distinction on a semantic level as discussed earlier. The negative polar questions particularly differ in the original bias of the speaker, because for low negation questions there is no original bias and for high negation questions the original bias is that $p$ is true. The high negation question (5b) does carry the implicature that John drinks and imposes a condition of prior belief and can therefore only be used when is there is a specific original speaker bias (Romero \& Han, 2004).

The theories about the different forms of polar questions differ and not everyone agrees on the status of the different biases (cf. Van Rooy \& Safárová, 2003; Krifka, 2017; Anderbois, 2011; Northrup, 2014 as cited in Romero et al. 2017). This study will follow Romero et al. (2017) who experimentally showed that there is a relevant distinction between low and high negation questions for English native speakers in terms of original and contextual biases. They focussed on four different conditions. These conditions consist of the original bias and the contextual evidence bias. The first letter represents the original bias, if the original bias is $n$ then the bias is neutral. The speaker has a bias if the original bias is $p$. The second letter represents the contextual evidence bias, which can be $n, p$ or $\neg p$. These letters carry meaning, $n$ is neutral and $p$ stands for proposition and if it is $\neg p$ there is an expectation that $p$ is not true. These letter combinations create the following conditions, $n / n$, $n / \neg p, p / n$ and $p / \neg p$. Romero et al. (2017) found that every condition had a preferred corresponding polar question. For the $n / n$ condition the English native speakers preferred positive polar questions over all other questions, whereas for the $n / \neg p$ condition, speakers preferred low negation polar questions. The speakers preferred high negation questions for the $p / \neg p$ condition. For the last condition $p / n$, which will not discussed in this study, the speakers also preferred high negation. These last two conditions both had high negation as preferred polar question, but Romero et al. (2017) found that there is still a distinction between these
two forms of high negation and confirmed the theory of Ladd. Ladd (1981) proposed the idea that high negation questions can be separated into two different kinds, namely inner and outer negation. ${ }^{1}$ This distinction will not be relevant for this study and will not be included in the experiment, but it is relevant for the analysis of Dutch polar questions.

The results from Romero et al. (2017) were based on the preference of adult native speakers of English. However, studies showed that native English speaking children produce a variety of non-adult linguistic forms during the process of first language acquisition (Guasti, Thornton \& Wexler 1993 as cited in Thornton, 1995). Children produce non-adult forms of negative polar questions, even though they are fully able to comprehend negative questions (Thornton, 1995). Experiments showed that children used a variety of structures. They found that the structures had one thing in common, which was that the negative element had not moved out of the Inflection Phrase (IP). The following structures were produced by the children.
a. What do you not like?
b. What you don't like?
c. What do you don't like?
d. What don't you don't like?
(Not-structure)
(No I to C)
(Aux-doubling)
(Neg/Aux doubling)
(Thornton, 1995. p. 310)
These structures indicate that there is no movement of the negation. The phrase (6a) is an example of low negation and (6b-d) are variations of low negation. Example (6b) contains the

[^0]clitic negation form, $n$ 't, but the negation is in its initial position of low negation. Example (6c) shows that the children doubled the auxiliary and kept the negation at its initial position of low negation. Finally, in example (6d) the children doubled the auxiliary and negation, but negation was still attached to the auxiliary in its initial position. These structures differ greatly from structures produced by adult native speakers of English. However, additional experiments showed that there is no difference between adults' comprehension and children's comprehension of negative questions. These different structures adhere to three stages in children's development of sentential negation. The first stage is marked as primitive, in which negation is only expressed by the markers not and no. In second stage negation is still expressed by the markers not and no, but their sentences now include predicates and main verbs. During this stage utterances with negative auxiliary verbs begin to appear. However, the clitic negation in this stage is a transitional form, which means the children still consider the clitic negation to be an adverb (Thornton \& Tesan, 1995). Young native speakers of English find it difficult to process high negation questions, which is not so much the case for low negation questions that are clearly favoured in the structures they used in (3) (Thornton, 1995). Thornton and Tesan (2013) claim that children begin with adverbial (semantic) negation only and add syntactic negation to their grammar in response to positive input revealing that there a negative head ( $n$ 't) in their target language. Children experience difficulty in identifying the negative morpheme, which is why children remain limited to semantic negation for an extended period of time. In first language acquisition we observed a difficulty with high negation questions. This study, however, will focus on second language acquisition. The relevance of the studies in first language acquisition is that Dutch, in contrast to English, only has an adverbial form of negation. The English children incorrectly assign adverbial status to the combination of the auxiliary and the $n$ ' $t$ and seem to think their language only has adverbial negation. Therefore, the two groups English native speaking
children and Dutch second language learners, are going through different sorts and stages of language acquisition, but their knowledge of negation is comparable.

### 2.2 Dutch negative polar questions

The Dutch language is not unfamiliar with polar questions, but the polar questions appear in different forms compared to the English polar questions. The first main difference is that Dutch does not have head negation, whereas English does ( $n$ ' $t$ ). In Dutch the negative marker is always a negative adverb, niet. Dutch has semantic negation only, because the negative adverb also serves as a negative operator (Thornton \& Tesan, 2013). Negative polar questions in Dutch can only be made with the word niet (not), which can be seen in (7a). This is an example of a low negation question.
(7) a. Heeft Lisa niet gekookt?

Has Lisa not cooked?
'Did Lisa not cook?’
Dutch does have high negation questions, even though Dutch does not have the difference between head and adverbial negation. An example from Walles (2015) enlightens the situation of negation in Dutch polar questions. The position of the adverbial niet can either be high or low. Example (8a) is an example of high negation in Dutch, whereas (8b) is an example of low negation in Dutch.
(8) a. Heeft niet Piet dat gedaan? high negation

Has not Piet that done?
'Didn't Piet do that?'
b. Heeft Piet dat niet gedaan? Low negation

Has Piet that not done?
'Did Piet not do that?'

The word order in example (8a) has changed in comparison to (8b). However, high negation in Dutch is not just made by movement of the adverbial niet; it also requires a specific intonation. In example (8a), stress has to be on Piet, because without such stress placement the phrase would be ungrammatical. Walles (2015) therefore highlights the importance of intonation for distinction in Dutch negative polar questions. Polar questions in Dutch and English seem relatively similar, despite the syntactic difference of the head negation. However, the movement of the adverbial niet is much more restricted compared to the English form of head negation. The reading of high negation questions is influenced by the presence of positive polarity items or negative polarity items (Romero, 2004). A sentence that includes an NPI immediately eradicates the possibility of an outer reading and the negation in the sentence cannot be moved. On the other hand, in sentences that include a PPI the negation can be moved and these sentences are seen as outer readings. This difference in shown in an example by Walles (2015), with the NPI hoeven.
(13) a. Hoeft Piet dat niet te doen?

Need Piet that not do?
'Does Piet not have to do that?'
b. *Hoeft niet Piet dat te doen?

Need not Piet that to do?
'Doesn't Piet have to do that?'
(Walles, 2015. p.20)
The Dutch verb hoeven is a negative polarity item which enforces an inner reading, which means that the negation cannot be moved. Therefore, this example shows that there is no ambiguity between outer and inner reading of high negation in Dutch, which means that a high negation polar question in Dutch is always an outer reading.

The syntactic form of the negation differs between Dutch and English. However, the original bias and contextual bias follow relatively the same pattern as in English. The negative polar questions in Dutch can also not be used interchangeably for different conditions.

Consider the following translated example of a $n / n$ condition:
(15) Scenario: Advocaat ondervraagt één van de getuigen.

Scenario: Lawyer interrogating one of the witnesses.
'Scenario: Lawyer asking unbiased questions at court'
a. Heb je de dader het slachtoffer zien slaan?

Have you the culprit the victim see hit?
'Did you see the culprit hit the victim?'
b. *Heb je niet de dader het slachtoffer zien slaan?

Have not you the culprit the victim see hit?
'Didn't you see the culprit hit the victim?'
c. *Heb je niet de dader het slachtoffer zien slaan?

Have not you the culprit the victim see hit?
'Did you not see the culprit hit the victim?'
(Romero et al., 2017. p.35)

Example (15b) would suggest that the lawyer has pervious previous belief that the witness saw the culprit hit the victim, whereas example (15a) conveys no such bias. The condition $n / n$
also requires a positive polar question and cannot combine with the high negation question. Example (15b) and example (15c) have the same syntactic structure, which is not the case for the English translation. Example (15b) is high negation and example (15c) is low negation, however this does not show in the Dutch translation. This is also the case for the $p / \neg p$ condition, which can be seen in the following edited example from Romero et al. (2017).
(16) Scenario: A betreed de kamer van $S$ met zwemkleren aan. $S$ ziet dat het buiten regen. Scenario: A enters the room of S with swimming clothes on. S sees that it outside rains.
'Scenario: A enters S' computer room wearing swimming clothes. $S$ sees that it is raining.'
a. S vraagt: Regent het?

S asks: Rains it?
'S asks: Is it raining?'
b. S vraagt: Regent het niet?

S asks: Rains it not?
'S asks: Is it not raining?’
c. S vraagt: Regent het niet?

S asks: Rains it not?
'S asks: Isn't it raining?'
(Romero et al., 2017. p. 36)

Example (16b) and example (16c) are again syntactically the same in Dutch. Dutch seems to have one version of negative polar question, whereas English has two different versions. Earlier, this study stated that Dutch has high negation and low negation, nonetheless these past two examples (15) and (16) suggest that Dutch does not have a syntactic difference. Dutch high negation seems to be more subject focussed instead of the biased negation that this
study focusses on. This means that Dutch high negation is functionally different from the high negation in English. These high negation questions are not compatible with the type of scenarios that will be presented to the students. Dutch has only one translation for the negative polar questions, which means Dutch only has one form of negation for the conditions $n / \neg p$ and $p / \neg p$. Therefore, Dutch negation is always low for these conditions.. For example (16) English speakers would prefer (16c), but for Dutch speakers there is no difference between (16c) and (16b). For condition $n / \neg p$, Dutch native speakers are also restricted to one form of negation, whereas English speakers have to choose between high negation or low negation. Consider the following edited example from Romero et al. (2017).
(17) Scenario: Het weerbericht voorspelde een vijftig procent regen kans voor vandaag. A betreed de raamloze computer kamer van $S$ met zwemkleren aan.

Scenario: The weather forecast predicted a fifty percent rain chance for today. A enters the windowless computer room from S with swimming clothes on.
'Scenario: The weather forecast predicted a fifty percent rain chance for today. A enters the windowless computer room from S with swimming clothes on’
a. S vraagt: Regent het?

S asks: Rains it?
'S asks: Is it raining?'
b. S vraagt: Regent het niet?

S asks: Rains it not?
'S asks: Is it not raining?'
c. S vraagt: Regent het niet?

S asks: Rains it not?
'S asks: Isn’t it raining?'

In example (17) the speaker is not certain whether it is raining outside, so his original bias is $n$. A enters the room with swimming clothes on, which suggests that it is not raining and the contextual evidence is $\neg p$. The preferred option in Dutch would be 'Regent het niet?', which could be either (17b) or (17c). English speakers would prefer option (17b), but for the Dutch speakers there is no difference between option (17b) and (17c). Example (17a) is incompatible for both languages because of the contextual evidence. This study concludes that there does not seem to be a form high negation in Dutch that is similar to high negation in English. High negation in Dutch only scopes over the subject and does is therefore functionally different from English high negation. The conditions have a similar effect on the polar questions in Dutch as well as in English, but the difference is that Dutch only has one form for the negative polar questions.

### 2.3 Polar questions in second language learners

Previous studies on negative polar questions in English have focussed on English native speakers. Other studies have also focussed on differences in polar questions between English and German and Japanese (Domaneschi, Romero \& Braun, 2017; Sudo, 2013). However, the use of negative polar questions by second language learners of English has not yet been investigated. The aim of this research is to explore to what extent second language learners of English are able to correctly use negative polar questions in English. The mis-usage of negative polar questions can have consequences for communication in English, because it can lead to confusion and misunderstandings. This was shown earlier with the example from Romero et al. (2017).
(18) Scenario: Lawyer asking unbiased questions at court.
a. Did you see the culprit hit the victim?
b. *Didn't you see the culprit hit the victim?

Example (18b) would suggest that the lawyer has a bias, in which the lawyer beliefs that the witness saw the culprit hit the victim. However, the lawyer cannot ask such questions at court, because the questions have to be unbiased, which means example (18b) leads to communication problems. This example shows that the use of polar questions does potentially have a great impact on the context and could influence the situation if misused. It is interesting as well as important to see how second language learners of English use these negative polar questions in context, because of the globalisation and the increase of English as a lingua franca. This study will look at Dutch second language learners of English and has taken into consideration the potential difficulties that might arise based on difference between Dutch and English negation. One of the major differences discussed is negation remains in the form of the adverbial niet and cannot merge with other words, unlike negation in English. This was illustrated with the following example.
(19) a. Heeft niet Piet dat gedaan?

Has not Piet that done?
'Didn't Piet do that?'
b. Heeft Piet dat niet gedaan?

Has Piet that not done?
'Did Piet not do that?'
(Walles, 2015. p.19)
Although this example suggests that Dutch has high negation in a similar way to English, that is not the case. High negation in Dutch is subject focussed and therefore does not have the same function as high negation in English. Dutch has one from of negative polar question, which may or may not carry a bias. Therefore, the conditions based on original bias and contextual evidence and the corresponding questions are also different in Dutch. In Dutch we
use one form of negation question regardless of the original bias and contextual evidence, whereas in English the bias matters for the different question forms. Another factor that might influence student's performance is the way negation is taught in schools. The students are taught that high negation is used for informal situations and mostly used in spoken English, whereas low negation is considered to be formal and mostly used in written English. The students are often encouraged to merge negation during exercises. The young native speakers of English showed that their forms of negation share similarities with negation in Dutch. The negation does not move out of the inflectional phrase in the forms the children produced, which is also the case for negation in Dutch.

Based on the literature, the expectation is that the Dutch students will experience difficulty in distinguishing high negation polar questions and low negation polar questions. The positive polar questions should not be a problematic area for the Dutch students of English, since the differences occur in the negative polar questions. The expectation of this study is that Dutch second language learners of English might show a similar pattern as that of a young native speaker of English, because Dutch does not have the n't form of negation. Young native speakers also do not produce high negation, even though they can comprehend it. However, the difference in language acquisition still has to be taken into account. First language acquisition is different from second language acquisition, which means the conditions differ. Another expectation is that the students might overuse the high negation polar questions, based on how the students are taught negation. The Dutch students are often encouraged to use the high negation instead of the low negation. Dutch only has one form of negation and it could be that the students translate their singular form of negation to head negation in English, since that form is most encouraged.

## 3. Research question

Based on the literature, the expectation is that the Dutch students will experience difficulty in distinguishing high negation polar questions and low negation polar questions. However, it is uncertain whether the Dutch students will apply polar questions in an (English-speaking) adult-like way, child-like way or another way that might differ from both English children and adults. Therefore this study will focus on the following predictions:

| H1 | The Dutch second language learners will avoid the high negation questions, <br> because of syntactic differences between English and Dutch as well as similarities <br> between Dutch second language learners and English native children. |
| :--- | :--- |
| H2 | The Dutch second language learners will overuse the high negation questions, <br> because the Dutch students are taught that high negation is the more informal form <br> of negation and used in spoken English as well as the fact that Dutch only has one <br> form of negation. |

The following table (1) corresponds with the expectation pattern from hypothesis 1 . The expectation is that the students will avoid the high negation questions and instead use the low negation questions.
(1)

| Original bias |  |  |  |
| :--- | :--- | :--- | :--- |
| Contextual <br> evidence |  | $\mathbf{p}$ | $\mathbf{n}$ |
|  | $\mathbf{n}$ |  | PosQ |
|  | $\neg \mathbf{p}$ | LowNQ | LowNQ |

Table (2) corresponds with the expectations from hypothesis 2 . The expectation is that the students will overuse the high negation questions and therefore use the low negation questions less.
(2)

| Original bias |  |  |  |
| :---: | :--- | :--- | :--- |
| Contextual |  | $\mathbf{p}$ | $\mathbf{n}$ |
|  | $\mathbf{n}$ |  | PosQ |
|  | $\neg \mathbf{p}$ | HighNQ | HighNQ |

These predictions will be analysed through the following questions. The research question is: 'Do Dutch second language learners of English use low and high negative polar questions in the same way as native English speakers do?'

This question contains several sub-questions:

- Do Dutch second language learners of English use low negation if the original bias is neutral $n$ and the contextual evidence is not $p$ ?
- Do Dutch second language learners of English use high negation if the original bias is $p$ and the contextual evidence is not $p$ ?
- Do Dutch second language learners of English use positive polar questions if the original bias is $n$ and the contextual evidence is $n$.


## Method

## Participants

Forty-six Dutch second language learners of English participated in this study. All 46 participants were high school students at the VWO level, between the ages of 15 and 17. The students were part of a special English program at the school for advanced learners of English. None of them were aware of the goal of the experiment. The students were only informed about the goal and topic after the questionnaire had been completed. Informed consent was obtained from every participant before and after students completed the questionnaire.

## Stimuli

I created 15 written scenarios, which were all based on the appendix list of positive questions by Domaneschi et al. (2017). The students were offered questions concerning different daily life scenarios and their task was to select the polar question that they deemed most suitable for that context. The answer options consisted of a low negation question (LowNQ), a high negation question (HiNQ) and a positive question. The condition was set through sentences that described pictures, which was set up in a similar way to Domaneschi et al. (2017). All the questions therefore consisted of caption/picture pairs as shown in (17). In this example the speaker wants to know whether there is a direct train to Berlin or not. In this case the original bias is neutral, because the brother did not remember whether there was a train or not. Therefore, the speaker does not have a particular bias and is neutral with respect to whether there is a train or not. The contextual evidence in this scenario is provided by the ticket office personnel and suggests that there is no direct train to Berlin. The contextual evidence therefore suggests not $p$, because the personnel says there is not a direct train. In this condition English native speakers preferred a low negation question over a positive question and a high negation question.

You have to take the train to Berlin to visit a friend. You know that your brother takes that train often and you ask your brother for advice. Your brother tells you that:


## ?

he doesn't remember if there is a direct train.
The next morning, you walk to the ticket office and you ask what train would be the best option. Ticket office personnel suggests:


Take the train at 11 pm. You have to switch trains in Hannover.
What question would you ask to find out if there is a direct train to berlin? Select the question that you consider more natural.

O: Isn't there a direct train to Berlin?
O : Is there not a direct train to Berlin?
O: Is there a direct train to Berlin?
In Dutch there is only one form of negative polar question available for this question. All the questions were similar to this example, but differed in original bias and contextual evidence bias. I created two different questionnaires for this experiment. The two different questionnaires were both based on the same situations and contained the same fillers. The conditions that required a positive question $n / n$ were fillers. The first questionnaire had 5 items in $p /$ not $p$ and 5 items in $n /$ not $p$. The second questionnaire had the same scenarios, but the conditions were changed. The 5 items that were $p /$ not $p$ in the first questionnaire, were $n / n o t p$ in the second questionnaire. The same was done for the other items, except for the fillers. This was done in order to minimize the influence from the scenarios themselves.

## Procedure

The students were all tested in a classroom at the same time. The experiment started with written and spoken instructions informing them about the questionnaire and what was expected from them. The instruction included an example question, in which the students were carefully instructed on how to read the questions. The questions were read out loud and discussed, but the answer to the question was not discussed, because that could have influenced the rest of the questionnaire. The students were given the possibility to ask questions before and during the questionnaire concerning the content of the scenarios, no questions were asked. The students were not under pressure, because there was no time-limit included in order to minimise pressure influencing the results. The questionnaire was handed
out on paper, which included instructions as well, so that the students could read the information again if they wanted. After the students had finished the questionnaire they handed it in directly. Finally, the students were informed about the purpose and content of the study after they had all finished the questionnaire. The average duration of the whole experiment was 30 minutes.

## Results

The results of this study are depicted in Figure 1. The preferred choice for (PosQ in $n / n$ and HiNQ in $p /-p$ ) was above $50 \%$. However, for the condition $n / \neg p$ none of the given polar questions was largely preferred over the other.
(1)
average proportion of question types chosen
in each condition


For the $n / n$ condition the original bias and the contextual evidence bias are both neutral. As shown in earlier examples this condition naturally requires a positive polar question, because negative questions do not fit with this particular condition. Romero et al. (2017) showed that the English native speakers largely preferred positive questions for this condition. The second language learners also largely preferred the positive questions over the negative questions in
this condition. For the $n / n$ condition the Dutch second language learners show similar results to the English native speakers. However, this is not the case for the $n / \neg p$ condition. The original bias in this condition is neutral and there is contextual evidence against $p$. This condition requires a low negation polar question and is not compatible with a positive or high negation polar question. The English native speakers preferred the low negation question for this condition. The results show that the Dutch second language learners of English did not have a clear preference for this condition. The mostly opted choice is the high negation, which is very different from the results the English native speakers showed. The last condition is the $p / \neg p$ condition. For this condition the speaker has an original bias and there is contextual evidence against $p$. This condition requires a high negation polar question as a response, since that polar question conveys an original bias. The results from Romero et al. (2017) showed that English native speakers largely preferred the high negation polar question for this condition. The Dutch second language learners of English also largely preferred the high negation polar questions over the other polar questions. Overall, the Dutch second language learners of English use the high negation polar questions more than the English native speakers.

## 6. Discussion

The current study aimed to find out whether Dutch second language learners of English use low and high negative polar questions in the same way as native English speakers. Based on previous literature this study had two possible predictions.

| H1 | The Dutch second language learners will avoid the high negation questions, <br> because of syntactic difference between English and Dutch as well as similarities <br> between Dutch second language learners and English native children. |
| :--- | :--- |
| H2 | The Dutch second language learners will overuse the high negation questions, <br> because the Dutch students are taught that high negation is the more informal form |


|  | of negation and used in spoken English as well as the fact that Dutch only has one <br> form of negation. |
| :--- | :--- |

I will first discuss the three subquestions combined with the results and after that I will discuss the research question. I will also discuss the limitations of this study and I will give suggestions for future research.

One of the subquestions was whether Dutch second language learners of English use low negation if the original bias is neutral $n$ and the contextual evidence is not $p$. Based on the previous literature this study concluded that the Dutch second language learners of English would not differ from English native speakers in this condition, because of similarities between English and Dutch. Low negation in English uses an adverbial negation, which is similar to Dutch because Dutch negation is always adverbial. Additionally, Native English children did not find it difficult to produce low negation and also show a preference for the adverbial negation. However, it was concluded that the students might overuse high negation questions and use them for this category as well. This conclusion was based on the way negation is taught and because Dutch only has one form of negation. The results showed that the Dutch second language speakers opted most frequently for the high negation polar questions in the $n / \neg p$ condition. This result is in line with hypothesis 2 , which suggests that the Dutch second language learners might overuse the high negation questions. On the other hand, this result rejects hypothesis 1 , in which it was expected that the students would avoid the high negation questions because of syntactic differences between Dutch and English as well as similarities to English native children in production of negation.

Another sub-question focussed on whether Dutch second language learners of English use high negation if the original bias is $p$ and the contextual evidence is not $p$. This condition was considered to be problematic for the Dutch second language learners, since Dutch does not have a form of high negation similar to English. Dutch has high negation, but is
functionally different from the high negation in English. Due to the differences the expectation was that the students would struggle in assigning polar questions to the $p / \neg p$ condition in a similar way to English native speakers. It was expected that the students would either avoid the high negation questions or could potentially overuse them. The experiment showed that the students preferred the high negation questions over the low negation and the positive questions, just like native speakers do. This is different from native English children who actually struggled producing high negation questions (Thornton, 1995). However, it cannot be concluded that the Dutch second language learners of English use high negation polar questions in a similar way to English native speakers, since the overall results seem to suggest that the students overuse the high negation polar questions and this conclusion supports hypothesis 2 . The students do not seem to avoid the high negation questions at all, which rejects hypothesis 1 .

The last sub-question focussed on the positive polar questions. The sub-question was whether Dutch second language learners of English use positive polar questions if the original bias is $n$ and the contextual evidence is $n$. Based on the analysis of both the languages and previous literature this study concluded that the Dutch second language learners of English would not differ from English native speakers in this condition. The languages did not show any differences and this condition is therefore unlikely to pose any difficulties for Dutch learners. In Dutch positive polar questions are also favoured in $n / n$ conditions, because high and low negation would not fit with the original bias and the contextual evidence. The results confirmed the expectations, since the students largely preferred positive polar questions in $n / n$ conditions.

The main question was whether Dutch second language learners of English use low and high negative polar questions in the same way as native English speakers do. The expectations, as shown earlier, were that the students would either overuse the high negation
polar questions or avoid the high negation polar questions. The results showed that the students overused the high negation polar questions and that they produced less low negation questions, which means that the students followed the following pattern:
(3)

| Original bias |  |  |  |
| :--- | :--- | :--- | :--- |
| Contextual <br> evidence |  | $\mathbf{p}$ | $\mathbf{n}$ |
|  | $\mathbf{N}$ |  | PosQ |
|  | $\neg \mathbf{p}$ | HighNQ | HighNQ |

The expectation that the students would overuse the high negation polar question is based on the fact how the students are taught negation in English and that Dutch only has adverbial negation. The students are taught at school that there are two forms of negation in English, preposed and non-preposed negation. Dutch students of English are almost immediately taught that negation should be merged in English and it is often encouraged to do so. They are taught that the preposed form of negation is used for informal conversations and spoken English, whereas the non-preposed negation is mostly used in formal situations and written English. The questions were introduced to the students as daily-life situations, which could have encouraged the students to use head negation instead of the more formal adverbial negation. Another reason is that the questions presented to the students only had one negation form when translated to Dutch. Therefore, the students could not rely so much on the translation of the questions, since there would not have been a difference between the high and low negation questions in Dutch. The results from this study suggest that the students most frequently opted for the high negation question, which could be caused by the fact that the students consider high negation as the only right form of negation because they are extensively taught on high negation. This is problematic because of the possible miscommunications that occur through wrong placement of bias. It seems that the Dutch
second language learners are not taught negation correctly. Negation is only discussed on a syntactic level, but the semantics are not discussed. The negative polar questions are a crucial part communication and the semantic level of negation should be discussed in English classes.

This study had some limitations. The data sets for this research were based on the positive polar questions presented in Domaneschi et al (2017), but this does not mean that this data set was an exact replica. The differences have to be taken into consideration for comparisons made between the results. The polar questions were the same compared to the data set from Domaneschi et al (2017). However, the data set from this study had less answer options for the participants and the context of the conditions were based on the list of positive questions provided by Domaneschi et al (2017), which means the original bias and contextual evidence differed from this study. The results were compared to the results from Romero et al. (2017), but this study did not cover all the conditions that Romero et al. discussed in their study. There is also an age difference between the testing groups. This study focussed on secondary school students, whereas Romero et al. focussed on university students.

An important question for further research is what makes that Dutch learners behave differently from English native speakers. That is, why do they produce fewer low negation questions in conditions in which those are preferred for native speakers? This question is important, since it seems the ways of teaching negation of English might have influence on the performance of the Dutch second language learners. This could be experimentally tested after changing the way negation is presently taught to the students. As shown earlier, the misplacement of bias leads to communication problems, which is what language education should avoid and not encourage by misinforming the students about negation. Another interesting addition to this research would be to gather information about the performance of Dutch students on negative polar questions in dialogue. In dialogue the students will be able to express themselves more freely and it also presents an opportunity to see if Dutch students
limit themselves to high negation polar questions during speech or whether they also use low negation questions. This is particularly interesting since the Dutch students seem to be taught to merge the negation in spoken English.

## 7. Conclusion

Dutch second language learners of English do not use high negation polar questions in the same way native English speakers do, but they seem to overuse them. The fact that Dutch second language learners of English overuse high negation questions, seems to be stimulated by the way negation is taught to them. Students are only taught on the syntactic difference between low and high negation, but the semantic difference is never discussed. This is problematic since polar questions do have an impact on communication and therefore should be considered an important part of language education. The first step in education is to make the students aware of the differences between their native language and the target language. After the questionnaire, I introduced negative polar questions to the students, who were very interested as well as challenged by the subject. The negative polar questions are an important part of communication and should be taught at schools, because the experiment showed that the students experienced difficulty producing negative polar questions in a native like manner. In order for the students to achieve an native-like production of English, they should be made aware of differences between their native language and their target language. This awareness of differences will help them in acquiring the negative polar questions in English, since these questions differ significantly from Dutch negative polar questions. Ignorance of such differences could lead to potential miscommunication, whereas awareness of these differences could make the students aware of potential pitfalls. Thus, the integration of negative polar questions in the classroom is important, because of the possible miscommunications and misunderstandings that result from misusing the negative polar questions.

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[^0]:    ${ }^{1}$ Inner high negation questions are used when proposition is expected and the speaker wants confirmation for the inference that the proposition is not true. Outer high negation questions are used when speaker believes the proposition and the speaker wants confirmation for the proposition. Romero et al. (2017) studied the possible difference between inner and outer high negation and also favoured a split, in which there is a distinction made between inner and outer high negation. The following example can be found in Ladd (1989):
    (5) a. Aren't there some vegetarian restaurants around here?
    b. Aren't there any vegetarian restaurants around here?

    Outer negation questions, as in (2a), are biased towards positive answers, whereas inner negation questions in (2b) are biased towards negative answers.

