Lotte Hogeweg*, Helen de Hoop, Stefanie Ramachers,
Frans van der Slik and Verena Wottrich

The L2-acquisition of the German particle *doch*

DOI 10.1515/iral-2016-9981

Abstract: Discourse particles are notoriously difficult to acquire for second language learners. It has been argued that this difficulty is caused by a lack of equivalent concepts in the learner's native language. In this article we compare the acquisition of the German particle *doch* by speakers of Dutch and speakers with a native language other than Dutch. Like German, Dutch has a rich inventory of discourse particles and one of them can be considered the cognate of *doch*: *toch*. We performed our investigation by means of an online cloze test among 85 Dutch students of German and 76 learners of German with a first language other than Dutch. We tested five different functions of *doch*, some of which overlapped with the functions of Dutch *toch* and some which did not. Our results indicate that it is beneficial to have similar particles in one's mother tongue but we did not find evidence that it is extra beneficial to have form-meaning equivalents between the L1 and L2.

Keywords: discourse particles, transfer, German, Dutch

1 Introduction

With the exception of English, Germanic languages are known for their large number of discourse particles, almost untranslatable adverb-like elements like *doch*, *wohl*, *schon*, and *ja*. These small words are among the most frequent lexical elements and are of the greatest importance within the system and usage of German and Dutch. They can be used to mark contrastive relations within discourse (Dimroth et al. 2010) or to indicate the relation between utterances and mark the speaker's stance towards the conversation or their interlocutor. Not using particles can lead to unnatural, incoherent or even rude language use.

***Corresponding author: Lotte Hogeweg**, University of Amsterdam, Spuistraat 134, 1012 VB Amsterdam, The Netherlands, E-mail: L.Hogeweg@uva.nl

Helen de Hoop, Stefanie Ramachers, Frans van der Slik, Radboud University Nijmegen, P.O. Box 9103 6500 HD Nijmegen, The Netherlands

Verena Wottrich, University of Amsterdam, Nieuwe Achtergracht 166, 1018 WV, Amsterdam, The Netherlands

Particles are notoriously polysemous. Sometimes, a distinction is made between stressed and unstressed variants of the same particle, although the amount of stress itself is not necessarily sufficient to distinguish between different interpretations of one and the same particle (Dimroth et al. 2010). Hogeweg (2009a) demonstrates that the different uses of the Dutch particle *wel* share the property of being a denial of a negation in the context, but the strength of the negation that is denied by *wel* varies per context, and this appears to correlate with the amount of stress. The four strongest uses of *wel* show a fast change in pitch where the weaker uses do not. However, there is no one-to-one relationship between an interpretation and a specific stress pattern. The unstressed variants of discourse particles are often called *modal particles*. The distinction between a stressed and an unstressed or modal use of the German particle *doch* is illustrated in examples (1) and (2). The particle *doch* in (1) is stressed (as indicated by the use of capitals) and used by speaker B to contradict the statement made by speaker A. In (2) *doch* is unstressed. Here, *doch* seems to indicate that the speaker knows the name of the person s/he is thinking of but temporarily forgot.

- (1) A: *Peter kommt nicht.*
 ‘Peter isn’t coming.’
 B: DOCH!
 ‘Yes he is!’
- (2) *Wie hieß er doch?*
 ‘What was his name again?’

Because of their polysemous nature and often elusive meaning, it is hard to capture the meaning of particles. Hogeweg (2009b) examined the L1 acquisition of the different interpretations of the Dutch particle *wel* and found that the strongest meanings of *wel* were quite rare in adult usage, but the most frequent in children’s usage. She argued this to be due to the fact that the stronger meanings are more salient in context, and thus more easily acquired, while the weaker meanings (the unstressed or “modal” uses) are more difficult to infer from the context. One can easily imagine that this characteristic of discourse particles is what makes them difficult to acquire for second language learners as well. We will discuss some of the previous research on the L2 acquisition of discourse particles in Section 2. Previous research does indeed show that particles, and especially modal particles, are hard to acquire for non-native speakers. As will be discussed in the next section, it has been suggested in the literature that part of this difficulty lies in the lack of equivalent words in the native language. However, no study so far has compared the acquisition of particles by second language learners who have comparable particles in their native tongue

to the acquisition of particles by learners who lack these particles in their native language. This paper looks at the use of the German particle *doch* by Dutch students of German and compares it to its use by learners with a native language other than Dutch. Like German, Dutch is rich in particles and they are very frequently used. Dimroth et al. (2010: 3342) call the French and Italian repertoire of discourse particle “poorer”, the German “rich” and the Dutch even “very rich”. Moreover, there are many cognates among the Dutch and German particles. This study focuses on the acquisition of the German particle *doch*, which is one of the best described German particles and it has a Dutch equivalent: *toch*. However, *doch* cannot be translated by *toch* in every context. In Section 3 we will look at particles from a typological perspective and we will specifically go into the differences and similarities between *doch* and *toch*. We investigated the influence of the L1 by comparing Dutch learners of German with learners of German with a first language other than Dutch. We tested the proficiency of the L2 learners with respect to the different functions of *doch* by means of an online questionnaire. This is described in Section 4. Section 5 discusses the consequences of our findings for theories on the L2 acquisition of particles and contains some suggestions for L2 education.

2 The second language acquisition of discourse particles

Seeing that discourse particles are pragmatic markers, the study of their acquisition falls under the broader field of Interlanguage Pragmatics, which is described by Kasper and Schmidt (1996) as “the study of the development and use of strategies for linguistic action by nonnative speakers” (p. 150). Kasper and Rose (2002) argue that the development of pragmatics in a second language not only involves finding new ways of expressing already familiar pragmatic categories but also finding out for which functions a particular grammatical form can be used. Some studies have shown that learners may have acquired a particular grammatical form but do not deploy all its functions. As an example, the authors refer to a study by Rost-Roth (1999) on the acquisition of discourse particles by an Italian learner of German which shows that the modal functions of a number of particles were acquired late by the learner, despite their input frequency, due to their low perceptual saliency and their semantic opacity.

The difficulty of learning discourse particles has also been established by other researchers. A collection of articles edited by Weydt (1981a) called

Partikeln und Deutschunterricht “Particles and education in German” contains eight articles that are headed under the caption *Partikeln als Lernproblem* “particles as a learning problem”. In one of the articles, Weydt (1981b) carries out a pilot study in which subjects (learners of German who participated in a crash course at the Goethe-Institut and a control group of German native speakers) had to act out a short, everyday scene. The scenes were taped and transcribed and the number of particles per thousand words was computed. Weydt (1981b) makes a distinction between *Abtönungspartikeln* “modal particles”, which, in contrast to his own earlier work and to the distinction we make in this article, also include the stressed versions of particles that have a modal use, and *Nichtabtönungspartikeln* “non-modal particles” which include words like *auch* “too/also”, *erst* “first” and *schon* “already”. Although no statistically sound results were obtained due to the small size of the collected dataset, the data suggest that the learners of German used less modal particles than the native speakers (an average of 30,9 versus 87,3 per thousand words) as well as less non-modal particles than the native speakers (21,6 versus 34,6). In the same collection of articles, Steinmüller (1981) investigates the uncontrolled acquisition of German by Turkish migrants in Berlin. The author found that the majority of his subjects did not use modal particles at all. Steinmüller noticed that the foreign learners of German mainly acquired those elements whose meaning and function are clear and important in their daily lives. Initially, Steinmüller argues, their perception is selective and because of this, other linguistic elements (such as particles) may be overlooked due to their vagueness and their facultativeness. Steinmüller (1981) cautions, however, that the late acquisition of modal particles cannot be claimed to be a general or universal trend, because it has not yet been shown that modal particles are always acquired last.

Möllering (2001, 2004) discusses the problematic nature of modal particles for second language acquisition as well. The author claims that the complex meaning of modal particles, their (both linguistic and situational) context dependency, and their polyfunctionality are factors of major importance. As a result, learners of German as a foreign language often do not properly understand modal particles and they do not appear to use them as often as native speakers. Möllering (2001, 2004) argues for a corpus-based approach to teaching modal particles which will encourage learners to explore the natural usage of particles.

Although the majority of the literature on the acquisition of modal particles focuses on West-Germanic languages, some studies have focused on particles from other, unrelated languages. Wen (1995), for example, investigated and compared elicited interlanguage constructions with the Chinese particle *le* of 8 beginning and 6 more advanced English learners of Mandarin Chinese.

The Chinese particle *le* can be classified as having two functions: A verb suffix marking perfective aspect and a sentence-final modal particle (having several meanings, diverging in their semantic specificity and pragmatic functions, which are highly discourse dependent). Wen (1995) found that the two groups of students did not significantly differ with respect to the frequency of correct use of the verb suffix *-le*. However, the author did find a significant difference in the frequency of correct use of the modal particle *le*. Wen (1995) concludes from this finding that the two functions of Chinese *le* are not learned in the same way. Based on the observation that both uses were consistently used only in specific sentence patterns, he argues that subjects relied heavily on local context cues and semantics. For example, students did use sentence-final modal *le* correctly if it could be attributed a more concrete meaning in the context. Wen (1995) proposes that semantic concreteness and context (in)dependence play an important role: the meaning of sentence-final *le* is not very concrete and can vary across contexts. Additionally, the fact that the modal particle can be omitted without causing an ungrammatical structure makes it even more difficult for learners to grasp the exact function of this use.

Liu (2013) compared the use of discourse markers in English by native speakers of English and Chinese L1 speakers of English (see also Liao 2009). Liu (2013) found that Chinese speakers used certain discourse markers less frequently than English speakers, while they overused other discourse markers. Liu convincingly showed that the overuse of certain discourse markers in English is triggered by similar (yet not equivalent) discourse markers in Chinese. Chinese speakers used *I think* in sentence medial or final position to state their opinion, while English speakers did not. This might be triggered by the use of the Chinese discourse marker *wo jude* “I think” with that function in sentence medial or final position. Similarly, the nonnative use of *yeah* as a backchannel after the interlocutor’s reaction “uh huh” or “ok” might be transferred from the use of the Chinese expression *dui* “yeah” (Liu 2013).

The literature on the acquisition of particles consistently shows that it is difficult for learners of a second language to acquire particles and especially modal particles, and several authors propose more focus on teaching the uses of these particles in classrooms (cf. Aijmer 2011, Foolen 2010). Most authors ascribe this difficulty to their low perceptual salience, their polyfunctional and untransparent nature and their non-obligatoriness. Some authors suggest however, that the degree of difficulty may depend on the language pair involved. Zimmermann (1981) argues that the problems with the acquisition of modal particles are often caused by a lack of an equivalent concept in a learner’s native language. The existence of such an equivalent would facilitate learning in the sense of positive transfer. A similar argument was made by Wen (1995) who

argues that the sentence-final particle *le* is often omitted by English learners of Mandarin Chinese due to a lack of a similar linguistic element in their native language. The opposite effect of overuse of a discourse marker due to the existence of a similar linguistic element has been demonstrated by Liu (2013). Kasper (1992: 209) describes pragmalinguistic transfer as “the process whereby the illocutionary force or politeness value assigned to particular linguistic material in L1 influences learners’ perception and production of form-function mapping in L2”. As Jarvis and Pavlenko (2008: 176) state, “the general finding [...] is that the extent of transfer is highest in most areas of language use when the source and recipient language are perceived to be very similar by the L2 user”. This suggests that the difficulties in the acquisition of discourse particles does indeed depend upon the language pair since a similar particle inventory in the L1 and L2 could facilitate positive transfer. To our knowledge, however, no study has explicitly tested this difference, for example between learners of German with Dutch as their native language, who are familiar with the use of very similar particles and learners with native languages without (as many or as similar) discourse particles. In this study we test the use of German *doch* by Dutch students on the one hand and other second language learners of German on the other hand. Dutch has a discourse particle which could be considered the cognate of *doch*: *toch*. However, as mentioned above, *toch* and *doch* are not applicable in exactly the same contexts. Wenzel (2002) studied German learners of Dutch with semi-spontaneous interviews and found that they only used those functions of *wel* that are shared by its German cognate *wohl*. We will therefore also investigate whether, should we find a difference between Dutch and non-Dutch learners, this difference holds for *doch* across-the-board or for only those functions that are shared by *toch*. In the next section we will first examine the differences and similarities between the two particles in some detail. Since our goal is to compare the acquisition of German *doch* by native speakers of a language with a similar particle inventory with the acquisition of this particle by native speakers without such a similar inventory, we will first take a broader typological perspective and go into the role of particles in other languages.

3 Cross-linguistic comparison

3.1 Particles in a typological perspective

Although some languages are known to have a rich particle inventory and some languages are known to have very few particles, we cannot speak of an

all-or-nothing distinction. Discourse particles are known to be abundant in a number of West Germanic languages, among which German and Dutch, but not English. English is known to have very few particles but cannot be said to lack them completely. It has focus particles like *even* and *only* as in (3) and, as de Haan (2006) argues, the American-English use of *too*, as illustrated in (4), functions as a modal particle indicating “contrary to what you said/thought”.

(3) *Even/only John came to the party.*

(4) *Affective is too a word!*

(de Haan 2006: 39)

Modal particles are also known to be rare in Romance languages (e.g. Abraham 2000, Waltereit 2001). Abraham (2000) argues that Slavic languages also lack modal particles. However, de Haan (2006) mentions that Russian has some and Zimmerman (2011) reports that discourse particles are attested in Slavic languages, such as Czech. He refers to Rinas (2006) who analyzes three Czech particles (*přece*, *vždyt*, and *však*) which together span a semantic continuum that covers the meanings of the German particles *doch* and *ja*. Zimmermann also reports that the Finno-Ugric languages Finnish and Hungarian have some German-style discourse particles as well. Gyuris (2009), for example argues that Hungarian *ugye* has the same role as German *ja*. Furthermore, Zimmerman (2011) mentions some non-European languages with particles such as Mandarin Chinese (cf. Li 2006) and Japanese (cf. Hara 2006), as well as Singapore English (cf. Kim and Wee 2008). Enfield et al. (2012) compare sentence-final discourse particles of three different languages: Dutch (Northern Europe), Lao (Southeast Asia), and Tzeltal Mayan (Mexico). One of the Dutch particles they focus on is *toch* in its sentence-final use to elicit the interlocutor's agreement with or confirmation of the previous statement. Note that this particular use of Dutch *toch* is not available for the German particle *doch*.

Given that it is very difficult to impossible to characterize languages as either having (modal) discourse particles or not, for the purpose of our experiment we made a very coarse-grained distinction between speakers of Dutch on the one hand and native speakers of a language other than Dutch on the other hand. The idea behind this distinction is that the Dutch and German particle inventory is very similar, especially with respect to the specific particle under investigation in this paper, and any other language will consequently be more distinct. As we will discuss in the next section, the set of languages that were spoken by the non-Dutch subjects is diverse, including languages such as Chinese, Turkish, and Vietnamese. Only four languages were spoken by more than two respondents (they were English, Italian, Russian and Polish).

Zimmerman argues that the intonation pattern in (7) indicates that the presupposition that Harry is a good badminton player was not activated with speaker A, which is similar to the function of *doch*. The tag *isn't he* in (8), is similar to German *wohl* as it indicates weakened commitment. A range of different strategies is also put to use in languages other than Dutch to encode the functions that are expressed by *doch* in German. In Russian for example, the corrective function of *doch* (to be discussed below) can be translated by a number of lexical items while the modal function could be expressed through intonation (Krasnoukhova, p.c.). The range of possibilities will also partly be reflected in the next section by our English translations of the examples containing *doch* or *toch*, with which we tried to capture the meaning of the German and Dutch utterances as closely as possible. In the next section we will describe five functions of *doch* and we will discuss the similarities and dissimilarities with Dutch *toch*.

3.2 German *doch* and Dutch *toch* compared

For our experiment, we distinguished five uses of *doch*. Although these five functions may not form an exhaustive overview of the functions of *doch*, we believe they cover its most important usages. We will discuss the five uses in this section and compare them with the functions of Dutch *toch*.¹ Four of the uses of *doch* are stressed and one is unstressed. Three of them are translatable with *toch*, two uses are not.

The first stressed use of *doch* cannot be translated with Dutch *toch*. This use was also illustrated in (1), repeated in (9). We call this stressed use *corrective answering particle*.

- (9) A: *Peter kommt nicht.*
 ‘Peter isn’t coming.’
 B: DOCH!
 ‘Yes he is!’

Here, *doch* reacts to (it denies) a negative statement or question. Speaker B uses *doch* to indicate that s/he does not agree with the statement made by his or her

¹ Most of the examples discussed in this section are taken from Hogeweg et al. (2011).

conversational partner (see Hogeweg et al. 2011 for a formal semantic analysis). In Dutch, the same function is fulfilled by (*ja*)*wel*. Hogeweg et al. (2011) argue that using *doch* as part of a larger utterance (that is, not as an answering particle) is not possible in this particular situation, cf. (10).

- (10) A: *Er komt nicht.*
 ‘He isn’t coming.’
 B: *#Er komt DOCH!*
 ‘He *is* coming.’

In contrast, *doch* can be used when a proposition was accepted by the interlocutors, but has to be retracted because new information has become available (cf. Zeevat and Karagjosova 2009), as in (10). We call this second (stressed) use of *doch* *correction*. In Dutch, this same function can be fulfilled by *toch*.

- (11) A: *Er komt nicht.*
 ‘He isn’t coming.’
 B: *OK.*
 ‘OK.’
 ...
 A: *Er rief gerade an. Er kommt DOCH!*
 ‘He just called, he is coming after all.’

The information provided by A is accepted by B. Next, perhaps after some time has passed (indicated by “...”) new information is available and speaker A has to retract his/her previous statement. As mentioned, Dutch *toch* fulfills the same function, as is illustrated in (12):

- (12) A: *Hij komt niet*
 ‘He isn’t coming.’
 B: *OK*
 ‘OK.’
 ...
 B: *Hij belde net. Hij komt TOCH!*
 ‘He just called, he is coming after all.’

Doch and *toch* can both be used in the second part of a bipartite construction as in (13) and (14). This function is called *concession*, after the concessive nature of the first part of the utterance.

- (13) *Ich war krank, und/aber bin DOCH gegangen.*
 ‘Although I was ill, I went nonetheless.’
- (14) *Ik was ziek maar ik ben TOCH gegaan.*
 ‘Although I was ill, I went nonetheless.’

Doch in (13) and *toch* in (14) mark an inconsistency with a default inference, in that usually the proposition *p* leads to an inference $\neg q$ (cf. Karagjosova 2009),² in this case: If a person is ill, (s)he will usually stay at home. *Doch* or *toch* marks that the second part is unexpected, given the information in the first part of the utterance.

For the last stressed function of *doch* we borrow the term *concessive opposition* from Karagjosova (2009). In line with her explanation of this use, we propose that *doch* marks an inconsistency between *p* and *q*, but only against the background of a (previously uttered) Question Under Discussion.³ Consider example (15) (based on Karagjosova 2009).

- (15) *Der Ausblick ist toll, DOCH der Preis ist zu hoch.*
 ‘The view is magnificent, but it is very expensive, though.’

Say (15) is interpreted against a background in which an answer is sought to the question whether the speaker will take a particular hotel room. In that case, the first part of the sentence gives rise to an inference that she will take the room, while the second part gives rise to the inference that she will not take it. Again, *doch* is used to indicate the contrast between the two sentence parts. The difference between the use of *doch* concession and *doch* concessive opposition is that with the latter, the contrast between *p* and *q* only arises in a particular context while in the case of concession, the inconsistency between *p* and *q* is part of the common ground. The use of *doch* as concessive opposition cannot be translated with Dutch *toch*. A translation with *wel* in (16) seems to be the most appropriate.⁴

² Although Karagjosova primarily considers *doch* a conjunct adverb when discussing the concessive function, we argue that *doch* in (13) also marks a concessive relationship.

³ A Question Under Discussion is an implicit or explicit question that the interlocutors are trying to answer in the discourse (see e.g. Roberts 1996 for a formal definition).

⁴ A translation with Dutch *doch* is also possible: *Het uitzicht is prachtig, doch de prijs is erg hoog*. The use of *doch* in Dutch is restricted and quite uncommon due to its formal and archaic nature.

- (16) *Het uitzicht is prachtig, wel is de prijs erg hoog.*
 ‘The view is magnificent, but it is very expensive.’

Unstressed or modal *doch* and *toch* can be characterized as a reminder of the common ground (Karagjosova 2004, Zeevat and Karagjosova 2009, Hogeweg et al. 2011). Example (17) illustrates this use of *doch* and *toch* in assertions. The context of (17) is that speaker A is telling speaker B about her holiday in Berlin. She mentions that she had dinner in a beautiful restaurant near the Rhine. Her friend answers:

- (17) a. *Berlin liegt doch nicht am Rhein!*
 b. Berlijn ligt toch niet aan de Rijn!
 ‘But Berlin isn’t situated on the Rhine.’

By using *doch*, speaker B indicates that the fact that Berlin is not situated near the Rhine should be given information to speaker A. That is, speaker A should have already known this, according to speaker B. A similar effect can be identified when *doch* or *toch* is used in imperatives as in (18). The desire of the speaker for the hearer to stop was already known to the hearer, the speaker shouldn’t have had to say it again. Modal particles occur in interrogatives too, as in (19) (the answer to the question was already known, the question shouldn’t have had to be asked).

- (18) Context: Carolyn constantly begs for chocolate. Her mother is on the phone and shouts:
 a. Hör *doch* auf!
 b. Hou *toch* op!
 ‘Stop it!’
- (19) Context: Kelly is talking to her mother about an old classmate that she saw last week.
 However, she cannot think of his name at the moment and says:
 a. Wie hieß er *doch*?
 b. Hoe heette hij *toch* (ook alweer)?
 ‘What was his name again?’

We can conclude that the unstressed use of *toch* and *doch* are practically identical.

Table 1 sums up the uses of *doch* and shows whether they are stressed or not and whether the Dutch cognate *toch* has the same function or not.

As discussed in Section 2, we are interested in the following question: does having a similar particle inventory in the native language facilitate the acquisition

Table 1: Functions of *doch* tested in the experiment with information about stress and comparison to *toch*.

Function of <i>doch</i>	Stress on <i>doch</i> : yes/no	Dutch <i>toch</i> has same function: yes/no
Corrective answering particle	yes	no
Correction	yes	yes
Concession	yes	yes
Concessive opposition	yes	no
Modal particle	no	yes

of particles in a second language? In order to investigate this, we compare the acquisition of the German particle *doch* by learners who have a similar particle in their native language with learners who do not. Furthermore, we will test whether it is extra beneficial when there is a form-function equivalence between the L1 and L2 by comparing the uses of *doch* that are similar to Dutch *toch* with ones that are not. Based on the suggestions in the literature we pose the following hypothesis: Dutch learners are (in general) better at selecting the appropriate particle than non-Dutch learners. In addition, we expect Dutch learners to be especially better at form-meaning combinations that have a Dutch equivalent compared to ones that do not. Furthermore, we expect that the non-Dutch learners will have the greatest difficulties with the unstressed, modal function of *doch*. Concretely, this means that we expect that the Dutch learners will score higher on all functions of *doch* than the non-Dutch learners. We also expect that the difference between the Dutch and the non-Dutch learners will be higher for *correction*, *concession* and *modal particle* than for the functions *corrective answering particle* and *concessive opposition* because on the former functions *toch* and *doch* coincide while on the latter they do not. Finally, we expect that the non-Dutch learners will have the lowest proportion of correct answers for the function *modal particle* compared to the other functions, because the modal functions have been argued to be the most difficult to acquire. To test our hypotheses we conducted an online experiment.

4 Methods

4.1 Materials

For our experiment, we made use of the cloze procedure. We designed the cloze test using NetQ (<http://netq.nl>) to be distributed online. Participants

were asked to read discourse passages from which words had been deleted and replaced by blanks. The participants had to decide which word fitted best in the blank space. This procedure is considered an effective means of assessing both first and second language proficiency (cf. Anderson 1976). For each of the five functions of *doch*, we created four contexts, designed to elicit the particular particle, resulting in a total of 20 test items. The contexts were first tested with a group of 62 native speakers of German to check whether they would actually choose the particle the context was designed to elicit. When the mean percentage of correct answers was below 75%, we decided to change the context. This was the case for three of the contexts. These contexts were replaced by new contexts.

An example that was used to elicit *doch* (answering particle) is given in (20). The part where the particle should be located was demarcated by square brackets [...]:

- (20) Frau Jansen ist beim Bäcker. Sie schaut sich um und stellt fest, dass keine Kirschtorten mehr da sind. „Haben Sie keine Kirschtorten mehr?“ fragt sie enttäuscht. [...], antwortet die Verkäuferin, „gerade frisch gebacken. Sie stehen noch hinten zum Abkühlen.“

‘Mrs. Jansen is at the bakery. She looks around and notices that there are no cherry pies left. “Are you out of cherry pies?” she asks disappointed. “We’re not”, the saleswoman answers, “we just baked them. They are still in the back to cool down.”’

Although, as mentioned above, the cloze procedure is an effective means of assessing second language proficiency, we realize that it is not without disadvantages. We are aware of the possibility that participants might still interpret a context in a different way than intended by the authors, leading to an erroneous answer that, from the point of view of the participant, might be perfectly fine. An alternative way to investigate particle use by foreign language learners would be by building a corpus of (semi-)spontaneous learner conversations. However, it would be very difficult to elicit a substantial amount of occurrences of every single use of *doch* this way. An online cloze test therefore seemed to be the best procedure for our particular purposes (for more elaborate discussion on this issue, see Ramachers 2012).

Participants were asked to choose from a set of four particles to fill in the blank in the context. The four particles were *doch*, *ja*, *schon* and *wohl*. These particles share an affirmative meaning component. *Ja*, *doch* and *schon* are sometimes treated as a class called *Affirmativpartikeln* or *affirmative Modalpartikeln* (cf. Borst 1985). Of course, the exact contexts in which they are

used differ. *Ja*, *schon* and *wohl* were chosen as distractors (the other three possible answers in the test contexts) because of their partial overlap in meaning with *doch*. We expected that *ja*, *schon* and *wohl* would be candidates that especially Dutch learners might consider using instead of *doch*. This expectation was based on our own experience (the third author teaches German as a second/foreign language in the Netherlands) and on the fact that *wohl* can be considered a cognate of Dutch *wel*, which in turn might lead to an erroneous use of *wohl* where *doch* would be appropriate. If we had offered our participants distractors that show no overlap with *doch*, this could have made the task too easy.

The test items were distributed over four different versions. Each questionnaire contained five test contexts, each eliciting another one of the five uses of *doch*. To these five test contexts, twelve filler contexts were added. These filler contexts were the same across versions and consisted of four contexts designed to elicit the particle *wohl*, two contexts designed to elicit the particle *ja*, two contexts designed to elicit the particle *schon* and four contexts that were designed to elicit one of the following prepositions: *an*, *in*, *nach* and *zu* (all in a directional sense, meaning “to”). To control for order effects, the four versions were reversed in order to get a b-version with the exact opposite order, resulting in a total of eight versions.

4.2 Participants

In order to recruit a group of Dutch participants, we approached teachers of the German departments of the Dutch universities of Nijmegen, Amsterdam, Utrecht, Leiden and Groningen. For the non-Dutch participants, we established a list of e-mail addresses from members of German departments at different universities in different countries (i.e. Italy, Great Britain, Poland, Denmark) and staff members of German universities. These members were contacted and informed about the goal of the study. They were all asked to send an e-mail containing a link to the experiment to students or other second language learners of German whose native language is neither German nor Dutch, but who can speak the German language.

From a total of approximately 100 Dutch participants the results of 85 participants were taken into account. The others were dropped because they either had German as (one of) their native language(s) or because they did not study German. We also decided to exclude all subjects who did not finish the questionnaire (up till the last test item) because they may not have put serious effort into it. In total 87 non-Dutch learners of German filled in the questionnaire from which two had to be excluded because German was one of their native

languages and nine had to be excluded because they did not fill in all the test items. This left us with 76 non-Dutch subjects. Within the group of non-Dutch learners, the largest groups were formed by speakers of English ($n = 23$), Italian ($n = 16$), Russian ($n = 9$) and Polish ($n = 5$). In sum, the data of 85 native speakers of Dutch and 76 speakers with a native language other than Dutch were taken into account in this study.

4.3 Procedure

We distributed the questionnaire via e-mail. This e-mail contained a link to a website (<http://www.let.ru.nl/ciw-bc/webenquetes/sr>). On this website, a button “*naar de vragenlijst / to the questionnaire*” was displayed. There were eight versions of the questionnaire in total. We wanted to make sure that the different versions were distributed equally. Once a participant clicked the aforementioned button on our website, they were automatically guided towards one of the eight versions. This was regulated by means of a program that kept up with the number of participants that clicked the button and that guided participant 1 to version 1a, participant 2 to version 1b, participant 3 to version 2a and so forth, so that the ninth participant would be allocated to version 1a again.

Respondents were provided with a general description of the goal of the study at the start of the questionnaire. They were told that our research had the intention of improving our understanding of language learning and that the results would be valuable for educational purposes. They were requested to answer some personal questions that pertained to their education, year of study, the amount of contact with natives outside their education or job and an assessment of the individual competence in the target language, to be indicated on a 7-point-Likert scale (1 meaning “bad competence”, 7 meaning “fluent competence”). Likert scales have been used in second language research to assess individual competence in the target language (cf. MacIntyre et al. 1997), but also to rate degree of nativeness in L2 pronunciation studies (cf. Bongaerts et al. 2000; Munro and Derwing 1995). Before participants went through the actual cloze test, they were also provided with a few short instructions.

5 Results

The following analyses were all carried out using SPSS. We ran a repeated measures analysis of variance with *function* (5 levels) as a within-subject-factor and *language background* (2 levels) as a between-subject-factor. The mean

Table 2: Mean proportion of correct answers and standard deviation broken down by use of *doch* and language background.

Function of <i>doch</i>	Dutch/non-Dutch participant	Mean	SD	N
Answering particle	Dutch	0.95	0.21	85
	Non-Dutch	0.78	0.42	76
	Total	0.87	0.34	161
Correction	Dutch	0.71	0.46	85
	Non-Dutch	0.62	0.49	76
	Total	0.66	0.47	161
Concession	Dutch	0.89	0.31	85
	Non-Dutch	0.74	0.44	76
	Total	0.82	0.39	161
Concessive opposition	Dutch	0.95	0.21	85
	Non-Dutch	0.71	0.46	76
	Total	0.84	0.37	161
Modal particle	Dutch	0.72	0.45	85
	Non-Dutch	0.57	0.50	76
	Total	0.65	0.48	161
All functions combined	Dutch	0.84	0.18	85
	Non-Dutch	0.68	0.26	76
	Total	0.77	0.23	161

proportions of correct answers for the five uses of *doch* can be found in Table 2, for both the Dutch and non-Dutch learners.

Since the assumption of sphericity had been violated according to Mauchly’s test ($p < 0.001$) we used the Huyn-Feldt correction ($\epsilon = 0.95$) for the adjustment of the degrees of freedom.

To find out whether the Dutch learners performed better than the non-Dutch subjects, we looked at the effect of the factor *language background*. The analysis yielded a significant difference in mean proportions of correct answers between the Dutch and non-Dutch learners: $F(1, 159) = 21.98, p < 0.001, \eta_p^2 = 0.12$. The Dutch learners made significantly less errors than the non-Dutch learners. The effect of the factor *function* informed us about the differences in performance for the several functions of *doch*. We found a significant difference in the performance on the several uses of *doch* $F(3.79, 602.84) = 11.83, p < 0.001, \eta_p^2 = 0.07$. To find out whether the difference in performance between the two groups was bigger for the functions of *doch* that are shared by *toch*, we looked at the interaction between the two factors. We found no significant interaction between *function* and *language background* $F(3.79, 602.84) = 0.86, p = 0.485, \eta_p^2 = 0.01$.

The descriptive statistics in Table 2 showed the following ranking of uses with the highest overall mean of correct answers: *answering particle* > *concessive opposition* > *concession* > *correction* > *modal particle*. We tested whether the differences between each of the uses of *doch* was significant by means of pairwise comparisons (with Sidak correction for the number of comparisons). The results showed that the first three uses (*answering particle*, *concession* and *concessive opposition*) did not differ significantly with respect to each other (all $p > 0.05$). The first three uses did differ significantly from the other two, *correction* and *modal particle* (all $p < 0.05$). *Modal particle* and *doch correction* did not differ significantly from each other ($p = 1$). Figure 1 illustrates the difference in proportions of correct answers between the Dutch and non-Dutch participants, for each use of *doch*.

Figure 1: Mean proportion of correct answers broken down by function of *doch* and language background.

Since it might be the case that the Dutch learners were better at German in general, and not specifically at *doch*, we wanted to get an idea of the subjects' level of German outside the domain of particles. To this end, we looked at the performance on the fillers where the subjects were asked to choose between one of four prepositions. In addition we also compared the score on *doch* with the subjects' judgment of their own level of German, as measured on a 7-point (Likert) scale (1 = bad, 7 = fluent).

The mean proportions of correct answers for the four questions on prepositions and for all five functions of *doch* combined can be found in Table 3.

Table 3: Mean proportion of correct answers and standard deviation for *doch* and the prepositions broken down by language background.

Word class	Dutch/non-Dutch	Mean	SD	N
Prepositions	Dutch	0.89	0.17	85
	Non-Dutch	0.80	0.25	76
Doch	Dutch	0.84	0.18	85
	Non-Dutch	0.68	0.26	76

As we see, the Dutch subjects also had a higher proportion of correct answers for the contexts testing the prepositions, but this difference was smaller than the difference in performance with respect to *doch*. To test whether the difference between the higher proportion of correct answers for *doch*-contexts on the one hand and the higher proportion of correct answers for preposition-contexts on the other hand was significant we performed a repeated measures analysis of variance with *language background* (2 levels) and *word class* (two levels: preposition and *doch*) as factors. The analysis showed that the interaction between the two factors was marginally significant: $F(1, 159) = 3.62, p = 0.059, \eta_p^2 = 0.02$. The differences between the mean proportions are illustrated in Figure 2. These results suggest that the difference in performance of the Dutch subjects and the non-Dutch subjects with respect to *doch* was bigger than the difference in

Figure 2: Mean proportion of correct answers broken down by word class and language background.

performance with respect to the prepositions. However, since the difference in performance for the prepositions and the uses of *doch* was only marginally significant we also looked at the subjects' own judgment of their level of German in relation with their performance on the test to get more insight into the question whether the better performance of the Dutch subjects was specific to *doch* or can be ascribed to a higher level of German in general.

In order to investigate the performance on *doch* in relation to the participants' own judgment of their level of German we performed a standard multiple regression analysis. The analysis showed that the variables *language background* and *self judgment* accounted for 22% of the variance in the amount of correct answers for the particle *doch*. Both variables had a significant effect: the Dutch subjects generally performed on average 17 percent better than the non-Dutch subjects ($B = 0.17$, $p < 0.001$), and the subjects who judged themselves higher on the 7-point scale generally performed better on the *doch*-contexts ($\beta = 0.32$, $p < 0.001$). A hierarchical model with the interaction of *language background* and *self judgment* added as a variable additionally showed a non-significant interaction-effect ($p = 0.084$).⁵ This suggests that language background served as a predictor for the performance on *doch* independently of the subjects' judgments of their own level of German.

The group of non-Dutch learners was too heterogeneous to obtain any significant results with respect to the variation within this group. To give some idea about the performance of the several subgroups we indicated the proportion of correct answers and standard deviation per function of *doch* for the four biggest speaker-groups in Table 4: English, Polish, Russian and Italian. Interestingly, the Polish and Russian learners appear to perform better than the English and Italian learners.

Table 4: Mean proportion of correct answers and standard deviation per function of *doch* for the four biggest subgroups of non-Dutch learners.

L1	Doch modal particle		Doch answering particle		Doch concession		Doch correction		Doch concessive opposition	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
English (23)	0.43	0.51	0.70	0.47	0.78	0.42	0.48	0.51	0.52	0.51
Polish (5)	0.60	0.55	1.0	0.00	0.60	0.55	1.0	0.00	0.8	0.45
Russian (9)	0.67	0.50	0.89	0.33	1.0	0.00	0.89	0.33	0.89	0.33
Italian (16)	0.38	0.50	0.63	0.50	0.56	0.51	0.25	0.45	0.63	0.50

⁵ It should be noted that this value would still be considered marginally significant by some.

Perhaps this reflects the fact that, as mentioned in Section 3, English and the Romance languages have very little (German-like) particles if at all, while most Slavic languages have some. However, the group sizes were too small to support this claim. Furthermore, the data in Table 3 do not reflect other differences between the subjects, such as country of residence. For example, most Russian students in our sample were living in Germany while most English students lived in the UK. We were also not able to take into account the effect of this variable, due to the small sizes of the subgroups. We leave this for further research.

5.1 Discussion

The results show that the Dutch learners of German performed better at the test than the non-Dutch learners. It could have been the case that the Dutch subjects were just better at German in general. We saw, however, that the difference in performance between the Dutch and the non-Dutch students with respect to *doch* was bigger than the difference in performance with respect to the prepositions, although the difference was only marginally significant. Furthermore, the analysis suggests that the better performance of the subjects cannot be completely explained by them having a higher level of German in general, as judged by themselves, since we found no interaction between the two variables as predictors for their performance. There was no interaction between the function of the particle and language background, meaning that we found no extra positive effect on the Dutch learners' performance of the fact that in some cases not only the form but also the function of *doch* and *toch* coincide. The results also show that for both the Dutch and the non-Dutch subjects *modal particle* was among the functions at which they performed worst. In the next section we will discuss our results in the light of the literature discussed in Section 2.

6 General discussion

We investigated whether the notorious difficulties with the acquisition of particles is a general phenomenon, or that it, as has been suggested in the literature, depends on the nature of the L1 and L2. We investigated this by means of an experiment that tested the acquisition of the German particle *doch*. We compared learners of German whose native language was Dutch, which has the very similar particle *toch*, with learners of German with another first language. Our hypotheses were that the Dutch learners would perform better than the other group of subjects and that the difference between the two groups would be higher for the uses where *doch* and

toch coincide. Furthermore, we expected that the non-Dutch subjects would have the lowest proportion of correct answers for the modal use of *doch*.

The results of our experiment showed that the Dutch students of German had a better command of the particle *doch* in general compared to the other L2 speakers of German. Our first hypothesis is therefore confirmed. Our hypothesis that the difference would be higher when the functions of *doch* and *toch* overlap is not confirmed. Our results show no evidence that it is extra beneficial when not only the form but also the function is similar. If that were the case we would have seen an interaction between use of *doch* and language background such that the difference between the Dutch and non-Dutch participants would be bigger for the uses *correction*, *modal particle* and *concession* than for the uses *answering particle* and *concessive opposition* (cf. Table 1, repeated here as Table 5).

Table 5: Functions of *doch* tested in the experiment with information about stress and comparison to *toch*.

Function of <i>doch</i>	Stress on <i>doch</i> : yes/no	Dutch <i>toch</i> has same function: yes/no
Corrective answering particle	yes	no
Correction	yes	yes
Concession	yes	yes
Concessive opposition	yes	no
Modal particle	no	yes

Contrary to expectation we see that the Dutch participants perform worst at *modal particle* and *correction*. The bad performance on the function *modal particle* is in line with the literature discussed in Section 2. Due to their acoustic and semantic non-saliency, modal particles are hard to acquire. The fact that the Dutch subjects perform badly on *correction* is unexpected, however, since here the particle is both stressed and its cognate *toch* has the same function in Dutch. The non-Dutch learners also performed worst on *modal particle* and *correction*, by which our last hypothesis is (partly) confirmed.

If equivalence between the L1 and L2 is the cause of the better performance of the Dutch subjects, why did the Dutch subjects not perform better at the uses of *doch* that are also fulfilled by *toch* than on the other uses? Perhaps the Dutch learners took advantage of the fact that the similarities between the German and Dutch particle inventory are not restricted to *doch* and *toch* but are much broader than that. Although two of the functions of *doch*, to wit *corrective answering particle* and *concessive opposition*, are not expressed by the cognate *toch* in Dutch, these functions can be expressed with another

Dutch particle, namely *(ja)wel*. This means that also for the uses of *doch* that were not translatable with *toch*, the Dutch students were familiar with this function and with the fact that a particle can be used to express this function. Since we tested only one particle and one language pair we cannot conclusively determine the precise nature of the effect of having particles in one's L1 on the acquisition of particles in the L2. Further research on other particles and language pairs should enable us to disentangle the effect of being familiar with the particles as a word class, having a set of very similar particles in one's L1, being familiar with a particular particle which is similar in form (irrespective of its function) and being familiar with a particular particle with respect to both its form as well as its function.

The differences that we found between the several uses of *doch* seem not to be related to the differences in language background or stress. One might still wonder why the Dutch students of German perform badly on the function *doch correction* then, since the particle bears stress in such a context and the function is expressed by the Dutch cognate *toch*. We hypothesize that this can be explained by the closeness in semantics to the other particles between which the subjects had to choose. The data showed that the Dutch subjects chose *schon* and *wohl* instead of *doch* each in 14.1% of the cases in the *correction*-contexts. It is not likely that the contexts were ambiguous because the native speakers chose *doch* in 98% of the *correction*-contexts, but we believe (based on the intuitions of one of the authors, who is a native speaker of German) this function of *doch* comes closer to the semantics of *schon* and *wohl* than the other functions. Also, although *toch* in Dutch can have the same function as its cognate *doch*, it is not obvious that the choice for *toch* as a particle in this context would also be the optimal choice in Dutch. In a *correction* context discussed in Section 3 above, the German example (11) *Er rief gerade an. Er kommt doch!* ("He just called, he is coming after all") can be translated by its Dutch equivalent (12) *Hij belde net, hij komt toch!* but this is clearly not the only option for speakers of Dutch. In this context, replacing *toch* by *wel* would also yield a felicitous utterance that fits the context. Further research is needed to test whether native speakers of Dutch would choose either *toch* or *wel* in such a context when native speakers of German unanimously choose *doch* and not, for example, *wohl*.

We have shown that the particle inventory of a learner's L1, together with the relative difficulty and/or saliency of a certain particle used in the target L2 does influence the acquisition and use of particles in a foreign language. Surprisingly, however, particles do not seem to be the subject of explicit instruction too often (if at all). Among others, Möllering (2001) stresses the importance of dedicating educational attention to different particle functions

by offering them embedded in various appropriate contexts. Students should become aware of the subtle effects that particles can add to discourse. This could be achieved by first presenting students with contexts void of any particles and subsequently provide them with that same context with particles. As Steinmüller (1981) suggests, a regular confrontation with particles in natural contexts would lead to an automatization of particle use by the learner. Aijmer (2011) also calls for more attention to particles in educational contexts. There is still very little explicit discussion of particles in educational textbooks at the moment. This could be explained by authors not knowing how to do so in an effective and comprehensive way, which in turn is probably a consequence of the difficulties that go hand in hand with the description of their various functions.

7 Conclusion

Discourse particles with their vague and many meanings are notoriously hard to acquire in a second language. Yet, they are very important for the proper use of the language, and if a learner would like to achieve an advanced near-native level of German, a good knowledge of its particles and their functions is indispensable. Despite this, there is hardly any (sometimes none at all) explicit instruction on the use of these particles and the relation between their forms and meanings. This study tested the proper use of the German particle *doch* in five different functions (meanings in context). We found that Dutch students of German have an overall better command of the proper use of the particle *doch* than learners of German with a different native language. This indicates that it certainly helps L2-learners when their native language has (a set of similar) discourse particles. However, so far the results do not indicate that it also helps when the form-meaning relations for the different particles are the same in the two languages. Although overall Dutch students of German perform better on some functions of *doch* than on others, this turns out to be independent of the cognate particle *toch* having a similar function in Dutch. Rather, the difference in performance appears to be related to the differences in the semantic inter-relationships among the different particles in each language, which does not necessarily yield the same (cognate) particle to become optimal in the two languages across contexts.

Acknowledgements: Lotte Hogeweg would like to thank the Netherlands Organisation for Scientific Research for funding this research. Part of this research

was carried out by Verena Wottrich within the Radboud Honours Academy program, which is also gratefully acknowledged. We would furthermore like to thank Rob Le Pair and Dymphy Coldenhoff for their help in conducting the experiment with NetQuestionnaire, Vera van Mulken for checking the English of this article, and Thijs Trompenaars for his editorial help. Our thanks also go to the learners of German who participated in the experiment. Finally, we would like to thank the reviewers and editors for their useful comments on an earlier version.

References

- Abraham, Werner. 2000. Modal particles in German: Word classification and legacy beyond grammaticalisation. In Petra Maria Vogel & Bernard Comrie (eds.), *Approaches to the typology of word classes*, 321–350. Berlin: de Gruyter.
- Aijmer, Karin. 2011. *Well I'm not sure I think...* The use of *well* by non-native speakers. *International Journal of Corpus Linguistics* 16. 231–254.
- Anderson, Jonathan. 1976. *Psycholinguistic experiments in foreign language testing*. St. Lucia, QLD: University of Queensland Press.
- Bongaerts, Theo, Susan Mennen & Frans van der Slik. 2000. Authenticity of pronunciation in naturalistic second language acquisition: The case of very advanced late learners of Dutch as a second language. *Studia Linguistica* 54(2). 298–308.
- Borst, Dieter. 1985. *Die affirmativen Modalpartikeln doch, ja und schon*. Berlin: De Gruyter.
- Dimroth, Christine, Cecilia Andorno, Sandra Benazzo & Josje Verhagen. 2010. Given claims about new topics. How Romance and Germanic speakers link changed and maintained information in narrative discourse. *Journal of Pragmatics* 42. 3328–3344.
- Dressler, Wolfgang, U. & Lavinia Merlini Barbaresi. 1994. *Morphopragmatics: Diminutives and intensifiers in Italian, German, and other languages*. Berlin: Mouton de Gruyter.
- Enfield, Nick J., Penelope Brown & Jan Peter de Ruiter, J.P. 2012. Epistemic dimensions of polar questions: Sentence-final particles in comparative perspective. In Jan Peter de Ruiter (ed.), *Questions: Formal, functional and interactional perspectives*, 193–221. Cambridge: Cambridge University Press.
- Foolen, Ad. 2010. Partikels volgens de schijf van vijf. *Internationale Neerlandistiek* 48(2). 41–51.
- Gyuris, Beáta. 2009. Sentence-types, discourse particles and intonation in Hungarian. In A. Riester & T. Solstad (eds.), *Proceedings of Sinn und Bedeutung 13* (SinSpeC 05-I), 157–170. Stuttgart: University of Stuttgart.
- de Haan, Ferdinand. 2006. Typological approaches to modality. In William Frawley (ed.), *The expression of modality*, 27–70. Berlin: Mouton de Gruyter.
- Hara, Yurie. 2006. *Non-propositional modal meaning*. Ms. Newark: University of Delaware.
- Hogeweg, Lotte. 2009a. The meaning and interpretation of the Dutch particle *wel*. *Journal of Pragmatics* 41. 519–539.
- Hogeweg, Lotte. 2009b. *Word in Process. On the interpretation, acquisition, and production of words*. Utrecht: LOT Ph.D. Dissertation Radboud University Nijmegen.

- Hogeweg, Lotte, Stefanie Ramachers & Verena Wottrich. 2011. *Doch, toch and wel on the table*. In Rick Nouwen & Marion Elenbaas (eds.), *Linguistics in the Netherlands 2011*. 50–60. Amsterdam: John Benjamins.
- Jarvis, Scott & Aneta Pavlenko. 2008. *Crosslinguistic influence in language and cognition*. New York: Routledge.
- Karagjosova, Elena. 2004. *The Meaning and Function of German Modal Particles*. Saarbrücken: Dissertations in Computational Linguistics and Language Technology.
- Karagjosova, Elena. 2009. Adverbial *doch* and the notion of contrast. In Bergljot Behrens & Cathrine Fabricius-Hansen (eds.), *Structuring information in discourse: The explicit/implicit dimension*, *Oslo Studies in Language* 1. 131–148. Oslo: University of Oslo.
- Kasper, Gabriele. 1992. Pragmatic transfer. *Second Language Research* 8. 203–231.
- Kasper, Gabriele & Richard Schmidt. 1996. Developmental issues in interlanguage pragmatics. *Studies in Second Language Acquisition* 18. 149–169.
- Kasper, Gabriele & Kenneth R. Rose. 2002. *Pragmatic development in a second language*. Malden, MA: Wiley-Blackwell.
- Kim, Chonghyuck & Lionel Wee. 2008. *Resolving the Paradox of Singapore English*. Ms. Singapore: National University of Singapore.
- Li, Boya. 2006. *Chinese Final Particles and the Syntax of the Periphery*. University of Leiden Ph.D. dissertation.
- Liao, Silvie. 2009. Variation in the use of discourse markers by Chinese teaching assistants in the US. *Journal of Pragmatics* 41. 1313–1328.
- Liu, Binmei. 2013. Effect of first language on the use of English discourse markers by L1 Chinese speakers of English. *Journal of Pragmatics* 45. 149–172.
- MacIntyre, Peter D., Kimberly A. Noels & Richard Clément. 1997. Biases in self-ratings of second language proficiency: The role of language anxiety. *Language Learning* 47(2). 265–287.
- Möllering, Martina. 2001. Teaching German modal particles: A corpus-based approach. *Language learning and technology* 5. 130–151.
- Möllering, Martina. 2004. *The acquisition of German modal particles: A corpus-based approach*. Bern: Peter Lang.
- Munro, Murry J. & Tracy M. Derwing. 1995. Foreign accent, comprehensibility, and intelligibility in the speech of second language learners. *Language Learning* 45(1). 73–97.
- Ramachers, Stefanie. 2012. Die Erschließung von Partikelkompetenz in der L2: Eine methodische Herausforderung. In Chiara Cerri, Sabine Jentges & Antje Stork (eds.), *Methoden empirischer Fremdsprachenforschung im Prozess - ein Blick hinter die Kulissen aktueller Forschungsprojekte*. Materialien Deutsch als Fremdsprache (MatDaF), Band 88, 83–96. Göttingen: Universitätsverlag Göttingen.
- Rinas, Karsten. 2006. *Die Abtönungspartikeln 'doch' und 'ja'. Semantik, Idiomatisierung, Kombinationen, tschechische Äquivalente*. Frankfurt: Lang.
- Roberts, Craige. 1996. Information Structure in Discourse: Towards an Integrated Formal Theory of Pragmatics. In Jea-Hak Yoon & Andreas Kathol (eds.), *Ohio State University Working Papers in Linguistics*, 49. Columbus, OH: Ohio State University Press.
- Rost-Roth, Martina. 1999. Der (Nicht-)Erwerb der Modalpartikeln. Eine Fallstudie zum Partikelerwerb einer italienischen Deutschlernerin mit Vergleichen zu anderen Lernervarietäten". In: Norbert Dittmar & Anna Giacalone Ramat (eds.), *Grammatik und Diskurs/ Grammatica e discorso. Studi sull'acquisizione dell'italiano e del tedesco/Studien zum Erwerb des Deutschen und des Italienischen*, 165–209. Tübingen: Stauffenburg.

- Steinmüller, Ulrich. 1981. Akzeptabilität und Verständlichkeit – Zum Partikelgebrauch von Ausländern. In Harald Weydt (ed.), *Partikeln und Deutschunterricht*, 137–147. Heidelberg: Julius Groos.
- Waltereit, Richard. 2001. Modal particles and their functional equivalents: A speech-act theoretic approach. *Journal of Pragmatics* 33. 1391–1417.
- Ward, Gregory & Julia Hirschberg. 1985. Implicating uncertainty: The pragmatics of fall-rise intonation. *Language* 61. 747–776.
- Wen, Xiaohong. 1995. Second language acquisition of the Chinese particle *le*. *International journal of applied linguistics* 5(1). 45–62.
- Wenzel, Veronika. 2002. *Relationelle Strategien in der Fremdsprache. Pragmatische und interkulturelle Aspekte der niederländischen Lernersprache von Deutschen*. Universität Münster PhD thesis.
- Weydt, Harald. (ed.) 1981a. *Partikeln und Deutschunterricht*. Heidelberg: Julius Groos.
- Weydt, Harald. 1981b. Partikeln im Rollenspiel von Deutschen und Ausländern. In H. Weydt (ed.), *Partikeln und Deutschunterricht*, 161–168. Heidelberg: Julius Groos.
- Zeevat, Henk & Elena Karagjosova. 2009. History and grammaticalization of “*doch*” /” *toch*”. *ZAS Papers in Linguistics* 51. 135–152.
- Zimmermann, Klaus. 1981. Warum sind Modalpartikeln ein Lernproblem? In Harald Weydt (ed.), *Partikeln und Deutschunterricht*, 111–122. Heidelberg: Julius Groos.
- Zimmermann, Malte. 2011. Discourse particles. In Paul Portner, Claudia Maienborn & Klaus von Heusinger (eds.), *Handbook of Semantics*, 2011–2038. Berlin: Mouton de Gruyter.