Growing up with Frisian and Dutch: The role of language input in the early development of Frisian and Dutch among preschool children in Friesland
Dijkstra, J.E.

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English summary

This dissertation is the result of a project in which the role of language input was investigated among bilingual Frisian-Dutch preschoolers in Friesland. Friesland is a bilingual region in the north of the Netherlands where the minority language Frisian is spoken, alongside the national language Dutch. Like English and Dutch, Frisian is a West Germanic language. It has four main dialects that differ mostly phonologically and lexically; however, the varieties are mutually understandable. Approximately 48% of the preschool-aged children (aged 2.5-4 years) in Friesland acquire Frisian as (one of) their mother tongue(s). All adults are in command of Dutch, since it is the language mostly used in education. Only a few studies exist that focus on young children in the Frisian-Dutch language context: a descriptive case study of the bilingual development of a girl growing up in the 1960s and a study with pupils in their first year of primary education (age 4-6 years) in Friesland which revealed that the second language (Dutch) of Frisian-speaking children was developed further than the second language (Frisian) of children with Dutch as a first language. These results indicated that young native speakers of Frisian were more balanced bilinguals than their peers with Dutch as their first language.

Bilingual acquisition largely depends on the input that children receive in each language. The more input in a language, the more proficient a child becomes in that language. A study by Gathercole and Thomas (2009) in Wales revealed that in early acquisition of English, young children growing up with Welsh at home or with both Welsh and English lagged behind in English proficiency, compared to their peers growing up with English at home. However, their study further showed that at the end of primary education the children that spoke Welsh or both Welsh and English at home had caught up fully in English proficiency. This is a surprising result; given the amount of English input one would expect that they would still lag behind in English compared to their peers growing up with English at home. In contrast, the latter group of participants lagged behind in Welsh, due to a reduced input in Welsh (Gathercole & Thomas, 2009). In other words, limited input to the majority language provided for an adequate proficiency in English, while continued exposure to the minority language was needed to establish sufficient command of Welsh.
This led to the question whether these findings could also be applied to other minority contexts, for example to the Frisian-Dutch language context. Previous studies showed that in the fourth year of primary education (age 7-8 years) children in Friesland performed similarly in Dutch compared to children in the rest of the Netherlands (van Ruijven, 2006; de Jager et al., 2002a, b, c). However, it is unknown if these results can also be extrapolated to preschool children. Previous studies have revealed that language deficits that occur at a young age will, in the long run, affect skills such as literacy and further academic performance. It was therefore interesting to focus on younger children in the current project, for example preschoolers. The current project investigated the role of language input in the development of vocabulary and mean length of utterance in words (morphosyntax) in both Frisian and Dutch in the age period of 2.5-4 years. It further examined the relation between vocabulary and mean length of utterance.

In three successive rounds, 91 participants were monitored in vocabulary and mean length of utterance in both languages. They were selected through preschools based on their age and home language. The language assessments took place outside the playgroup. The test assistants assessed the participants individually in receptive and productive vocabulary and made a recording of spontaneous speech. The six test assistants who conducted the assessments were instructed to only speak the language that was tested during each session. In each test round both languages were tested on separate occasions with a few weeks in between. In test round 1 the participants (age 2.5-3 years) were assessed in Frisian first and Dutch next. In round 2 (age 3-3.5 years) the language order was switched to Dutch-Frisian to avoid a language order effect. Consequently, in round 3 (age 3.5-4 years) the language order was Frisian-Dutch again. Parents and preschool teachers filled in a questionnaire concerning the language input of the participants inside and outside the home during every test round. Participants were divided into two home language groups, i.e. HL-Frisian participants, when both parents predominantly used Frisian towards their children, and HL-Dutch participants, when the parents predominantly spoke Dutch. Children from mixed families were discarded from the project. Besides home language, the project also addressed the influence of outside home exposure, i.e. the language input used by caregivers other than the parents, e.g. preschool teachers, grandparents, daycare providers, and other caregivers. Based on the amount of exposure to both languages
outside the home, the participants’ outside home exposure was divided into two groups, i.e. substantial exposure to the language other than the one at home, and exposure to the same language as at home.

Dutch receptive vocabulary was measured with the Dutch version of the Peabody Picture Vocabulary Test. For Dutch productive vocabulary, the subtest Woordontwikkeling of the Dutch Schlichting Test voor Taalproductie was used. Since there were no tests available for Frisian, both standardized Dutch tests were adapted to Frisian. Furthermore, in each language assessment a recording of spontaneous speech was made while the participant played with the test assistant, using a standard set of toys. After transcription, these speech samples provided information on the morphosyntactical measure, i.e. mean length of utterance in words (MLUw), and another lexical measure, i.e. number of different (or unique) words (NDW).

The current project resulted in four studies, i.e. the adaptation of two Dutch vocabulary tests to Frisian, a study of the influence of cognates within the four vocabulary tests, a vocabulary study and a morphosyntactic study. These four studies are discussed below. The final section will discuss the results and end with the conclusions.

**Test adaptations**

Chapter 4 describes the adaptation of the two Dutch vocabulary tests to Frisian. The first step in the adaptation process was the translation of the test items. With the receptive vocabulary test it was important for participants to hear the same stimulus in each Frisian dialect. Consequently, nine items were replaced by one of the distractors in the Frisian receptive vocabulary test. The items of the productive vocabulary test remained the same. Since one item in that vocabulary test might elicit more than one correct response, the regional varieties were included in the correct responses. Both Frisian adaptations were tested in a pilot study. Fourteen participants were assessed with the adapted receptive vocabulary test and fifteen participants were assessed with the adaptation of the productive vocabulary test. Based on their responses, one item in each vocabulary test was adjusted. The internal consistency of both Frisian vocabulary tests was considered high.
The influence of cognate items in the vocabulary tests

Because Frisian and Dutch show a partial overlap in vocabulary, the Frisian and Dutch vocabulary tests had a fair amount of cognate items in common. The influence of these cognate items is discussed in Chapter 5. Cognates are words that have the same meaning and pronunciation in both Frisian and Dutch, cf. the cognate *bear* (Frisian) - *beer* (Dutch) ‘bear’ and the non-cognate *brêge* (Frisian) - *brug* (Dutch) ‘bridge’. The Frisian receptive vocabulary test consisted of 46 (43%) cognate items, whereas its Dutch equivalent had 47 (44%) cognate items. The difference in percentages between the two receptive vocabulary tests can be explained by the replacement of some items in the adapted version. In both productive vocabulary tests, 26% of all correct responses were cognate items. The percentage of cognate items on the productive vocabulary tests was much lower compared to the receptive vocabulary tests, due to fact that the items of the productive vocabulary tests could elicit more than one correct response. For example, the cognate responses *frachtauto* (Frisian) and *vrachtauto* (Dutch), and the language-specific responses *frachtwein* (Frisian) and *vrachtwagen* (Dutch) are four possible answers meaning ‘truck’ and belonging to one and the same item. The question then arose whether the presence of the cognate items in the vocabulary tests would affect the language performance of test takers in bilingual language assessments. The current study compared per vocabulary test the means of total scores of the cognate items and the non-cognate items with the ones of the entire vocabulary test. The findings showed that the cognate items did not have a significant influence on the results of the Frisian receptive vocabulary test and the Frisian and Dutch productive vocabulary test. However, it was unclear if the cognate items had significantly influenced of the Dutch receptive vocabulary test. This might be explained by the fact that differences between two groups become less important as their differences in competence decrease, which was the case for this vocabulary test.

Overall, the variance in test scores could hardly be explained by the presence of cognate items. We conclude that as long as the proportion of cognates in a vocabulary test reflects the proportion of cognates shared between two languages, the presence of cognates in the vocabulary tests does not jeopardize the validity of these tests. This is especially true for two languages that are related, for example for Frisian and Dutch. However, the exact proportion of cognates between two languages is unknown and difficult to generate. Nevertheless, the items of a vocabulary test should be representative of the words in the language...
tested. It is a fact that Frisian and Dutch have an overlap in vocabulary. Therefore, this overlap should also be reflected in the vocabulary tests of the two languages.

**Vocabulary study**

The vocabulary study, described in Chapter 6, investigated the role of language input, i.e. home language and outside home exposure, in the early vocabulary development in Frisian and Dutch. The main study comprised 91 participants, i.e. 58 HL-Frisian and 33 HL-Dutch participants. The two home language groups did not differ significantly with regard to children's gender or socio-economic status. In the first test round, 43 of the 58 HL-Frisian participants were mainly exposed to Frisian outside the home, whereas the other 15 participants were exposed substantially to the other language, Dutch. Additionally, 19 of the 33 HL-Dutch participants were exposed to Dutch outside the home, and 14 HL-Dutch participants had a substantial Frisian outside home exposure in that test round. In general there was no dependency between participants' home language and their outside home exposure. All participants attended preschool for one to three mornings or afternoons per week. For 42% of the participants this was a Frisian-medium or bilingual (Frisian and Dutch) preschool. The other 58% of the participants attended a preschool without an explicit language policy. Both home language groups also differed in the amount of exposure to the other language within the home, e.g. when being read to or watching television. For example, the HL-Frisian participants were read to in both languages while the HL-Dutch participants were mainly being read to in Dutch. Furthermore, the parents of the HL-Frisian participants reported that their children sometimes used Dutch besides Frisian at home, for example during play, whereas their HL-Dutch peers only used Dutch.

In Frisian receptive vocabulary, home language and outside home exposure were significant factors. The HL-Frisian participants significantly outperformed the HL-Dutch participants. Participants with substantial exposure to the other language outside the home outperformed the children who were mostly exposed to the same language inside and outside the home. In Dutch receptive vocabulary, only outside home exposure was important. Again, participants with substantial outside home exposure to the other language outperformed the children who were exposed to the same language inside and outside the home. However, neither home language group showed significant differences in their scores on this vocabulary test.
In Frisian productive vocabulary, only home language was an important factor. The HL-Frisian participants significantly outperformed the HL-Dutch children in Frisian productive vocabulary. Furthermore, an interaction effect was found between home language and time, suggesting that the differences between both home language groups increased over time. Home language was also a significant factor in Dutch productive vocabulary. The HL-Frisian participants scored significantly lower at this vocabulary test than their HL-Dutch peers. However, no interaction effect was found here, so the rate of acquisition of the HL-Frisian participants was similar to that of the HL-Dutch participants.

A subgroup of 20 participants from the main vocabulary study were used for analyses on a third lexical measure, i.e. number of different words (NDW). These participants all had three spontaneous speech samples in Frisian and three in Dutch of more than eleven minutes each and were matched on home language, gender and non-verbal intelligence. The first 100 child utterances of each sample were transcribed and analysed on number of different words (NDW) and mean length of utterance in words (MLUw). The results for the latter measure are described in the next section.

Results showed that a home language effect was found in Frisian NDW, but not in Dutch NDW. Outside home exposure was not important in this lexical measure for both languages. Interaction effects were not found either. This means that in Frisian the HL-Frisian participants used significantly more unique words than the HL-Dutch participants. In Dutch NDW both home language groups showed no differences.

Correlation analysis between the vocabulary measures showed a strong relation between NDW and productive vocabulary. Both expressive measures correlated less strong with receptive vocabulary, particularly with respect to Frisian.

**Morphosyntactic study**

The morphosyntactic study, which is described in Chapter 7, examined the role of language input, i.e. home language and outside home exposure, in the early morphosyntactic development in Frisian and Dutch. It further investigated the relation between morphosyntax and vocabulary within and across both languages. The study was carried out with the subgroup of 20 participants from the main vocabulary study (see the previous section). The child
utterances in the speech samples were transcribed and analysed on mean length of utterance in words (MLUw). Results showed that in Frisian MLUw, home language played an important role, whereas it did not in Dutch MLUw. Moreover, in Frisian MLUw an interaction effect was found between home language and time, meaning that the advantage, which the HL-Frisian participants showed in Frisian MLUw compared to their HL-Dutch peers, increased over time. Outside home exposure was not an important factor in Frisian and Dutch MLUw.

Furthermore, significant relations were found between MLUw and all three lexical measures within each language. However, this relation seemed stronger between MLUw and productive vocabulary and between MLUw and NDW than between MLUw and receptive vocabulary. No cross-linguistic relations between morphosyntax and vocabulary were found, except for one significant relation between Frisian MLUw and Dutch NDW in the third test round.

**Role of language input: home language and outside home exposure**

Home language was an important factor in all measures of Frisian and of Dutch productive vocabulary, where it was not in Dutch receptive vocabulary, Dutch NDW, and Dutch MLUw. This means that in Frisian vocabulary and morphosyntax the HL-Frisian participants outperformed their HL-Dutch peers significantly. Furthermore, the differences between the two home language groups in Frisian productive vocabulary and morphosyntax increased substantially over time. The absence of an interaction effect in Frisian receptive vocabulary and Frisian NDW indicated that although HL-Dutch participants were behind in these measures, their rate of acquisition was equal to that of their HL-Frisian peers. With respect to Dutch, both home language groups showed similar results for receptive vocabulary, NDW and morphosyntax. In Dutch productive vocabulary, the HL-Dutch participants showed significantly higher proficiency compared to their HL-Frisian peers. However, since no interaction effect between home language and time was found, the HL-Frisian participants acquired Dutch productive vocabulary at a similar rate as their HL-Dutch peers.

The relatively small number of participants in the subgroup (N=20) compared to the main vocabulary study (N=91) might explain why home language was essential in Dutch productive vocabulary and not in Dutch mor-
phosyntax or NDW. Moreover, the subgroup only included participants with six samples that lasted longer than eleven minutes, so the selected participants might be less anxious, more talkative and perhaps also more advanced in their language development, compared to the participants not selected.

Surprisingly, outside home exposure was not important in productive vocabulary. This might be due to the quantification of this variable, i.e. we only included the input of caregivers other than the parents. Results might have been different if input from peers, television of book reading had also been included. Outside home exposure was only an important factor in receptive vocabulary in both languages. This means that participants with caregivers who substantially used the other language than the one at home had higher results in receptive vocabulary in both languages than their peers who were mainly exposed to the same language by parents and other caregivers.

The discrepancy in proficiency in the language other than the one spoken at home might be explained by the amount of input participants received in that other language. For example, parents of HL-Frisian participants read to their children in both languages, while the HL-Dutch participants were mainly read to in Dutch. However, given that Dutch is the national language, one should also consider the higher status of Dutch and the larger supply in Dutch child books and media, e.g. television programmes, compared to Frisian. Furthermore, the HL-Frisian participants used Dutch during (solo) play alongside Frisian, whereas the HL-Dutch participants only used Dutch. Consequently, it seemed as if HL-Frisian participants used their L2 (Dutch) more than the HL-Dutch participants did with Frisian. Speaking the L2, i.e. output in the L2, might therefore explain why the L2 development is more advanced in one home language group than in the other. Moreover, there is a lack of need for HL-Dutch participants to use Frisian, since all Frisian adults are in command of Dutch. In contrast, the Dutch adults are not always able to speak Frisian, so HL-Frisian participants need to switch to Dutch sometimes to make themselves understandable. The latter explanation is suggested by Paradis and Nicoladis (2007) in a Canadian study on language dominance and language choice in French and English.

The finding that the HL-Frisian participants showed no significant differences with their HL-Dutch peers in Dutch receptive vocabulary, NDW and MLUw, suggested that the preschool-aged participants are in the process of catching up with their HL-Dutch peers in Dutch. It is expected that after the first years of primary education they will perform at a similar level in Dutch as their Dutch peers (van Ruijven, 2006; de Jager et al., 2002a, b, c). In the
Welsh-English language context, a catch-up in the national language, English, was found by the age of nine. It therefore seems there is a (slightly) earlier catch-up in the Frisian-Dutch language context compared to the Welsh-English one. This might be explained by the fact that Frisian and Dutch are closely related languages, while Welsh and English are not. Frisian and Dutch have, for example, an overlap in vocabulary and morphosyntax, which might facilitate this catch-up in Dutch for children with Frisian as their home language.

In line with other studies, non-verbal intelligence was an important confounder in the early development of Frisian and Dutch. Data in language studies should therefore always be controlled for intelligence. Another result of the studies conducted within the project was that the growth in almost all Frisian measures was largest between rounds 1 and 2 compared to rounds 2 and 3, whereas this was not the case for the Dutch measures. This result was probably due to a ‘first time’ effect, since the first assessments in round 1 concerned Frisian measures only. Although every effort was taken to prevent feelings of anxiety, the new test situation and being outside the safety of the playgroup with a stranger, i.e. the test assistant, might have caused stress among the participants. By the time they were tested in Dutch they knew what they could expect and they felt more at ease. Consequently, the results of the Frisian assessments in round 1 should be considered as an underestimation of the participants’ proficiency. In retrospect it would have been better if the language assessments had been counterbalanced. However, due to time limitations and financial resources, this was not possible in the current project.

Furthermore, in line with other studies a strong relation was found between MLUw and the lexical measures NDW and receptive and productive vocabulary within each language. In other words, morphosyntax and vocabulary influenced each other in Frisian and Dutch. The relation between the expressive measures, i.e. MLUw, NDW and productive vocabulary, seemed stronger than between MLUw and receptive vocabulary. In addition, NDW and productive vocabulary also showed a weaker relation with receptive vocabulary, whereas they were highly correlated with each other. It appears that productive abilities demand additional skills other than receptive abilities, e.g. oral motor abilities as DeThorne et al. (2005) also suggested. However, further research is necessary to confirm this hypothesis.

Cross-linguistic correlations did not reveal substantial relations between Frisian MLUw and Dutch vocabulary, or Dutch MLUw and Frisian vocabulary, except for a negative relation between Frisian MLUw scores and Dutch NDW in round 3. However, that finding might be based on coincidence since it
was only found once. In other words, the cross-linguistic results did not support interdependence in the bilingual development across Frisian and Dutch. Given that the subgroup consisted of a small number of participants, further research is necessary to confirm the lack of evidence supporting of interdependence across both languages.

In line with Gathercole and Thomas (2009), the main conclusion of this project is that the acquisition of Frisian does not harm the acquisition of the majority language, Dutch. This is important for parents who are concerned that their children will immediately start with a delay in Dutch if they raise them with Frisian. The findings further revealed that the HL-Dutch participants still accelerated in Dutch while also acquiring Frisian (however, acquisition in Frisian was mostly effective in receptive skills in this group).

By the time the HL-Frisian participants entered primary education they were still in the process of acquiring Dutch. Previous studies have shown that children need about five to seven years to develop a second language. It is therefore unrealistic to expect HL-Frisian children to have already fully acquired Dutch by the time they enter primary education. Based on prior studies (van Ruijven, 2006; de Jager et al., 2002a, b, c) it is expected that they will fully catch up in Dutch within the first years of primary education.

This project comprised the first vocabulary and morphosyntactic studies among bilingual preschoolers in Friesland. It is therefore important to replicate the findings of the studies within the current project. Verification of the trends found would therefore require a longitudinal study to show how both languages develop further during the first grades of primary education.