

Language and education in a multilingual society:

Text comprehension and language attitudes among Aruban high school students

Bachelor's Thesis

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Abstract

The present study compares students' text comprehension in Dutch, Papiamentu, English and Spanish. First-year high school students (N=402) read the exact same text and answered the exact same questions, each in a different language. The results show that English is the reading language in which students understand and remember most of the texts presented to them. Students also rated the texts significantly higher when they read them in English. Both literal and inferential comprehension were tested. Differences between the languages were not significant for literal comprehension (except for Spanish, in which the students did significantly worse). The differences for inferential comprehension, however, were significant. There were differences in score between MAVO and HAVO-VWO students, but these differences were only significant for the groups reading in English and Dutch – not for the groups reading in Papiamentu and Spanish. Students did significantly better on the test when they were allowed to read in their best, their favorite, or their most important home language. Based on these findings and a discussion of the existing literature, some recommendations are made for educational changes and further research.

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1. Introduction

1.1. Language and education in Aruba

Aruba is a multilingual society. The four main languages on the island are Papiamentu, Spanish, English and Dutch. During the census in 2010, 68% of the Aruban population indicated that Papiamentu was their most important home language. For 14% of the people this was Spanish, for 7% English and for 6% Dutch (Censo, 2010).

Around 6000 languages are spoken throughout the world. These are spoken in only 190 countries, which means that multilingualism is quite a common construct (Shin, 2013). As a consequence, more than half of the people in the world are taught in another language than their mother tongue (Rymenans & Decoo, 1998). There are several different systems in which this could be the case. The system used in Aruba is called *total immersion*, which means that the language of education in all domains, Dutch in this case, is another language than the home language of the students (Beheydt, 2008). It is interesting that in Aruba the home language is often not the dominant language, Papiamentu (for roughly 32% of the people (Censo, 2010)). This means that for many people there is a home language (e.g. Spanish), a second language that is dominant, Papiamentu, and a foreign language used in education, Dutch (Beheydt, 2008). For most Aruban teachers, Dutch is a foreign language as well: one that they only learned at school or in courses (Van der Linden-Maduro, 2008). The goal of this system of total immersion is to produce bilingual students, or students who at least speak Dutch very well (Beheydt, 2008).

Shin (2013) explains that when different groups who live together need to communicate, they will never learn each other's language with equal eagerness. She argues that in any situation, there is always one group that is more advantaged when it comes to resources and power. This group is most likely to introduce their own language as the official language in politics, media and education. This process increases the group's social and educational advantage (Shin, 2013). It is probably also for this reason that Dutch has become the language of instruction in Aruba.¹ [voetnoot: for an excellent overview of Language Policy in Aruba, see: Dijkhoff & Pereira, 2010](#)) Despite the goals of the system of total immersion, language problems are encountered by students from Aruba who proceed to study in the Netherlands and their low level of language proficiency in Dutch has also become a political issue that the Dutch government has involved itself in (Rutgers, 1997).

1.1.1. Comprehensible input hypothesis

Rymenans & Decoo (1998) discuss three hypotheses on which factors are required for second language acquisition to be successful. The first is the *comprehensible input hypothesis* by Krashen (1984, cited in Rymenans & Decoo, 1998). Krashen's idea is that a language can be acquired when the input is of a slightly higher level than the current skill level, so that the input can be understood and something new can be learned at the same time. An interesting thought that belongs to this hypothesis is the argument that fear, motivation and self-confidence are related to how successful second language acquisition can be. According to Beheydt (2008), children in Aruba are regularly given the feeling that their home language is inferior, and he also argues that the psychological effects of this may severely impair learning abilities. Weber & Horner (2010) also discuss possible personal

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effects of the current situation, focusing on the way of testing. They argue that most language assessments are based on monolingual standards and are therefore unsuitable for multilingual children. They can lead to false diagnoses of language delays or impairment, which in turn may have psychological consequences for the students. Moreover, monolingual assessment in the dominant language reinforces the view that the multilingualism of students is a 'problem' (Weber & Horner, 2012). Koch (2007) conducted research on a specific monolingual test in a multilingual society, and found unacceptable levels of item bias. It was also found that different constructs were measured with the same test for L1 and L2 students (Koch, 2007).

The issue of motivation to learn a language seems to be another problem in Aruba, and Beheydt (2008) discusses two reasons for this. One is, that many children may have a negative attitude toward Dutch, because learning Dutch is often seen as a foreign and intrusive obligation. The other reason is that even in education Dutch does not always seem to be necessary: in Aruba, a Dutch explanation is often followed by one in Papiamentu. This is meant to help the children understand the subject matter, but it also means that children can zoom out on the Dutch explanation and wait for the one in Papiamentu.

Schmidt & Frota (1986, cited in Beheydt, 2008) add the *noticing theory* to the comprehensible input hypothesis. By *noticing*, they refer to a conscious understanding of language form: grammar. The positive effects on language ability of grammar education in addition to comprehensible input have been confirmed by several studies (Beheydt, 2008). What could also work, and be beneficial, is to have some room in some way or another, for contrastive instruction: for *noticing* differences between the first and second languages. Since children automatically start comparing a new language to their native language, this could be a tool for learning a foreign language such as Dutch more easily (Beheydt, 2008; Van der Linden-Maduro, 2008).

1.1.2. *Comprehensible output hypothesis*

The second hypothesis that Rymenans & Decoo (1998) discuss is the *comprehensible output hypothesis* by Swain (1985, cited in Rymenans & Decoo 1998), which is meant to complement Krashen's comprehensible input hypothesis. Swain's hypothesis holds that students should not only be exposed to comprehensible input, but that they also need the chance to produce comprehensible output in the target language. In this manner, they test their own language use based on communication with others. Beheydt (2008) argues that this opportunity is minimal in the case of Dutch in Aruba: there is hardly any chance for the children to practice speaking and writing outside the school, because there is hardly any contact with Dutch in non-teaching situations. Already in 1981, a paper appeared by Instituto Lingwistiko Antiano (ILA) stating that Dutch was a 'phantom language' on the islands: an official language that did not function as one. It was considered a dead language existing next to the 'living' languages Papiamentu and English (Rutgers, 1997).

1.1.3. *Interaction hypothesis*

The third hypothesis is the *interaction hypothesis* by Hatch (1978, cited in Rymenans & Decoo 1998), which holds that language acquisition cannot be seen separately from communication. In communication in a second language, speakers adapt their language use

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for others to understand, which is called *negotiation of meaning*. Class situations are not considered favorable for negotiation of meaning because teachers seem to see negotiation as less of an efficient manner of communicating (Rymenans & Decoo 1998). As class situations are the only situations in which Aruban children are in touch with the Dutch language, *and* that there is no place for negotiation of meaning, it is not surprising that Aruban students have great difficulty learning it. It is worth noting that children in Aruba are not exposed to just two languages, but to four languages at the same time. This may mean that not all literature on bilingualism (most literature is on bilingualism as opposed to multilingualism) is applicable to the multilingual situation in Aruba.

1.1.4. *Proposed solutions*

Several solutions have been proposed to help children learn Dutch more easily. One of the proposals has been to have bilingual education in Dutch and Papiamentu, so the dominant language is not stigmatized, and can actually help in acquiring the second language. What would be needed for such a system, are teaching materials in Papiamentu, and materials that do not copy Dutch culture, but fit the frame of reference of the Aruban children (Beheydt, 2008; Van der Linden-Maduro, 2008). Also, in order for such a system to succeed, teachers need to be fluent in both languages, and have had special training in bilingual teaching methods (Beheydt, 2008). Beheydt (2008) also proposes a way to get rid of the idea that Papiamentu is inferior to any other language. He argues that it would help to have codification norms, dictionairies, grammar and spelling guides etc., like every other language on the island does (Beheydt, 2008; Rutgers, 1997). Pereira (2008) argues that Papiamentu can and should be used as "... a tool for instilling a strong and positive Aruban identity in [...] pupils." In the meantime, in 2010, a grammar manual has been written for Aruban Papiamentu, the "Manual di Gramatica di Papiamentu".

1.1.5. Language education in Aruba

All four of the dominant languages are taught as a subject in Aruban high schools. All Aruban students follow compulsory English and Dutch classes throughout the curriculum. They follow compulsory Spanish classes the first three years of high school, and as an elective from fourth grade on. For HAVO-VWO students, there are compulsory Papiamentu classes during the first three years of high school. After these years, Papiamentu is not offered in school anymore. MAVO students also follow Papiamentu classes during the first three years, but they can choose it as an elective in their fourth year as well. Also, there is an opportunity or these students to take final exams in Papiamentu as a subject.¹ Voetnoot: this final exam and the teaching materials from Curaçao, which means that the students learn a different variety of the language than the one that is spoken in their own country.

1.2. Multilingualism and text comprehension

1.2.1. *Definitions*

Multilingualism may be defined as 'having a repertoire of languages or varieties at one's disposal' (Weber & Horner, 2012). It is common in linguistics to define languages as L1, L2, L3 etc., according to the order in which an individual started to learn the languages or the

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order from best to worst language ability. This is a problematic way of portraying reality, as boundaries between one language and the other are not always that clear, and L1 in one social context does not have to be L1 in another social context (Weber & Horner, 2012). It is necessary to keep this in mind when considering literature on bilingualism or multilingualism: in reality, boundaries are not that black and white. While noticing this nuance, the terms 'multilingualism' and 'L1/L2/ etc.' will be continued to use in this paper for practical purposes. The same problem is present for the construct of 'mother tongue' or 'native language'. In some literature mother tongue is defined as the language first acquired by a child, whereas in other literature it is referred to as the preferred language in a multilingual situation (Tulasiewicz & Adams, 1998). For the literature presented below, it will be made clear which definition was used. For the present study, the concept of 'mother tongue' will not be used at all. Instead, there will be differentiation between constructs such as 'most important home language', 'best language', or 'preferred language' in several contexts.

1.2.2. Reading in a foreign language

One prevalent view of L1 (first language learned) reading identifies it as a meaning construction activity served by lower level processes associated with word decoding and recognition, and by higher level processes associated with bringing relevant prior knowledge to bear on the reading. It has been theorized that anytime word recognition does not proceed in a quick, smooth way, reading comprehension is likely to be impeded. When applied to L2 (language learned later) reading, such models point to the importance of lower level language factors as contributors to a learner's comprehension of text in an L2.

Alderson (1984, cited in: Lee & Schallert, 1997) addresses the question of whether L2 reading is a language problem or a reading problem. Carrell (1991) found that first language reading ability and second language proficiency, show both to be statistically significant factors for second language reading ability. Alderson (1984, cited in: Lee & Schallert, 1997) concludes from research that there is stronger evidence for low levels of L2 reading competence being a language competence problem, than a reading problem (although it may of course be a combination of these two in some cases). This implies that testing reading competence in a non-native language may reveal information about general competence in such a language.

Lee & Schallert (1997) add that when first learning to read in an L2, readers cannot as easily use knowledge or intuitions that they use for L1 reading. As readers become more proficient in the L2, it becomes easier to use this knowledge and these intuitions. Another study in this area by Cromley & Azevedo (2007) revealed that vocabulary and background knowledge made the largest contributions to comprehension, followed by inference and word reading.

1.3. The present study

1.3.1. Research goals

The present study intends to focus on multilingualism rather than bilingualism: all four of Aruba's dominant languages are taken into account. The main research question is: "How do

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the different languages influence performance on a reading comprehension test?" In order to answer this question, the exact same test was made by four groups of students. Each group read the text in one of the following four languages: Dutch, English, Spanish or Papiamentu. Comparisons were made between performance on literal and inferential comprehension, and between two different levels of high school education (MAVO and HAVO-VWO). Students were also asked some questions about their language use in different situations, as well as their attitudes to these languages.

1.3.2. Hypotheses

Some of the existing literature suggests that the role of the instruction language in students' lives influences academic performance. For instance, in one study Spanish immigrants in the USA tested in Spanish showed highly positive results compared to English, which they were just acquiring (Escamila, 2006, cited in: Weber & Horner, 2010). In another study, it was found that in Aruba, 27,3% of the non-native Dutch speakers double at least one year, whereas only 2,8 % of the Dutch speakers ever double a year (Van der Linden-Maduro, 2008). Hence, it is expected that there are differences in performance between the language groups. However, too little is known about the function of all four languages in society to pinpoint between which languages these differences will occur.

One could argue that the students will do best in Dutch, since that is the language they have learned to read in. One could also argue that students will perform best in Papiamentu because that is the dominant language on the island. Finally, one could hypothesize that children score best in English, because that language is very much present in society because of tourism from the USA and all kinds of modern media.

Severing (1997) found that in Curaçao, exposure to a language at home influenced language attitudes toward this language positively, and that such an attitude had a strong positive effect on text comprehension in that language. Exposure at home was also found to directly influence performance on a text comprehension test positively. It is hypothesized that a similar pattern will be found for Aruban students: the more exposure at home and the more they have a positive attitude toward a language, the better the results on the test will be.

2. Methods and materials

2.1. Materials

2.1.1. Texts

Two texts were used. One was retrieved from the website of a Dutch children's newspaper, and the other from a Dutch 3-VWO school book. Both texts were slightly shortened and simplified in order to make them more understandable for the target group. The texts were about gender-neutral subjects: strange baby names and goldfish. The original Dutch texts were translated into English, Spanish and Papiamentu by native speakers of these languages. Subsequently, they were translated back to Dutch by native speakers of Dutch, in order to control for translation mistakes. In the end, the group of translators, of whom all were proficient in at least two of the four languages, checked all the translations together. Great

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care was taken to keep the texts as similar as possible with regards to grammatical constructions and style. For instance, active sentences were translated as active sentences in every language, unless this would lead to a grammatical mistake or an odd construction in one of them. If the grammar rules of one language required that the sentence be passive, the option would be considered to change the sentence into a passive one in all four texts. Similarly, for style, an example would be how formal or informal the word choice was. If one translator had chosen a more formal option than the others, the word was changed into a more informal synonym. The same translation procedure was carried out for the test and the questionnaire described below.

The texts were a total of between 430 and 465 words – the exact word count depended on the language (Dutch:428; English: 430; Spanish: 465; Papiamentu: 490.) The texts had exactly the same lay out in all four languages, including funny illustrations that might have been helpful in understanding the texts.

2.1.2. Test and questionnaire

The reading comprehension test consisted of six multiple choice questions in the same language as the text. It was chosen to formulate multiple choice questions for practical reasons (they are easier to code and compare), as was done in previous research on similar topics (e.g. Lee & Schallert, 1997; Cromley & Azevedo, 2007). Three of these questions tested memory or literal comprehension: the answers could literally be found in the texts (e.g. “How old do goldfish become if they live in a fishbowl?”) The other three questions tested inferential comprehension (e.g. “Why did two parents want to call their child ‘Strawberry’?). Answering these questions required a deeper understanding of the text. There were four answers to each question for the students to choose from. Answers were either ‘right’, ‘close’ or ‘wrong’. ‘Close’ answers contained information from the text, but were not the right answer to the particular question. ‘Close’ also meant in some cases that it was a plausible answer if one had not read the text. The ‘wrong’ answers were funny or bizarre answers completely made up by the author, without any information that could be found in the texts.

This reading comprehension test was followed by a small questionnaire with 16 questions about the test itself (e.g. whether they liked the texts, how they think they performed etc.), and questions about language background and attitudes (e.g. ‘what is your most important home language’, ‘which language do you prefer to read in’ etc.). This questionnaire was in Dutch for all students, because it turned out to be highly impractical and time consuming to offer them the option to choose a language. The answers to these questions were used to test comparability of the groups, to look for correlations between answers to these questions and performance on the test, and to explore part of the students’ language attitudes.

The texts, questions and questionnaire used can be found in all four languages in Appendix I, Appendix II and Appendix III, respectively.

2.2. Participants

Participants were first-year students from four different high schools in Aruba (N=402, 159 male, 234 female), who followed MAVO (N=208) or HAVO-VWO (N=194) education. The

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choice was made to do the experiment with first-year high school students, because of high dropout rates reported in the existing literature (Beheydt, 2008; Pereira, 2008). It was assumed that the dropout rates would be lowest in first grade. The choice for high schools as opposed to primary schools was made in order to be able to differentiate between students from different education levels.

The schools were located in two cities: Oranjestad and San Nicolaas. The HAVO-VWO school was selected because it was the only option to test VWO students on the island. As far as MAVO schools are concerned, all school boards on the island were contacted and the schools of the ones who responded were selected for the experiment. No participants were excluded. The only potential participants who did not take part, were the ones who were absent on the testing day. Participants who came in late still took the test.

2.3. Pilot study

The test and questionnaire were first taken by a small pilot group of 4 sophomores (two boys and two girls), each with a different language background. Each student read the text in another language, which was randomly assigned to them. Reading the text and carrying out the test and questionnaire took the students between 10 and 11 minutes in total. Because these were HAVO-VWO students, and because they are a year older than the target group, the students in the actual experiment were expected to need slightly more time. All schools were therefore asked to provide students for around 30 minutes in total, including instruction time.

The pilot group also provided feedback about the texts and the questions. They all indicated that the texts were fun to read and understandable. Two of them found the questions a bit too easy, but their results were not better than the other students'. All students made 1 or 2 mistakes and all for different questions. From the way the questions of the questionnaire were answered, it was evident that they were able to understand the questions. Two questions were rephrased because the answers of the pilot group showed that they were ambiguously formulated.

2.4. Assignment

Groups of participants were randomly assigned to one of 4 languages for the texts and the test. If there were less than four groups in a school, each group was divided in half and each half read the text in another language. This was necessary in order to measure every language in every school. If there were four or more groups in a school, the entire group would read in the same language. In total, 102 students read the text in Papiamento, 96 in Spanish, 103 in English and 101 in Dutch.

2.5 Experiment and procedure

All students were informed about the research by one of their teachers at least one week before the experiment. The teachers received a small document with instructions on what to tell the students and what not to tell them yet. At one of the schools, it was requested that the researcher come by to introduce herself and explain the procedure. At that school, the

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exact same information was given that had also been sent to the teachers. The instruction document can be found in Appendix IV.

On the testing day, the author would already be present in the classroom when the students walked in. In all groups, the teacher introduced the author, and subsequently the author introduced herself and explained the experiment. Students were informed who the researcher was, and that the research was necessary for her to be able to get her diploma this year. Subsequently, they were instructed to carefully read the two texts once and then hand them in. Upon handing in the texts, they would receive the test and questionnaire. This choice was made based on a study by Johnston (1984), which revealed that performance improved when readers could not refer back to the text when answering the questions. More importantly, taking away the text removed bias due to prior knowledge (Johnston, 1984).

It was repeatedly made clear to the students that they would not receive a grade, and that making mistakes was not a problem: the research was as much about what they would understand, as about what they would not. Nonetheless, they were encouraged to do their best and not to leave any questions unanswered. The concept of anonymity was also explained to the students: they were not allowed to write down their name and nobody in the school would be able to read their answers.

Some groups were more energetic than others, but all students without any exceptions were very quiet and concentrated once they started reading. They raised their hands when they were done with the texts, and received the small test and questionnaire. The students all needed approximately the same amount of time (a difference of around 5 minutes between the first and the last one handing in their texts). The starting and ending time, number of boys and girls, and a description of the (linguistic) behavior of the students and teachers were written down during the experiment.

In some groups, students were instructed by their teacher on what to work on when they had finished the questionnaire. In others, the researcher would instruct them to do some homework or to solve a riddle written on the blackboard, until all the students were done. After this, the researcher thanked them for their participation and every student received a small treat.

3. Analysis

All tests and questionnaires were numbered and accordingly, all data were entered into the program SPSS. For some questions on the questionnaire, students had been asked to choose only one language. However, some of them wrote down several more. In these cases, the language that was written down first was entered into the database, assuming that students would first mention the language that came to mind first and that that would be the most important one rather than one of the others.

3.1. Overall performance

Performance on the test was analyzed in two different ways. Answers were coded as 1 (right), 2 (close) or 3 (wrong). First, only the right answers were taken into account, as it is in the school system: an answer on a multiple choice test is either right or wrong. Second, the total score was taken into account (lower scores meaning better performance), in order to

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nuance the results: differentiation between 'close' and 'wrong' answers may reveal more detailed information about text comprehension. For both kinds of analysis, a one-way ANOVA was conducted ($\alpha=0.05$) with 'text language' as the independent variable and 'performance' as the dependent variable. A post-hoc test was conducted for 'text language', using Bonferroni.

3.2. Comparing MAVO and HAVO-VWO

In order to compare the total scores between MAVO and HAVO-VWO, an independent samples t-test was conducted with education level as the independent variable and the total score as the dependent variable. In order to find out for which languages there were significant differences between MAVO and HAVO-VWO, the file was split in four parts according to text language before the conducting the test.

3.3. Differentiation between literal and inferential comprehension

Questions 1-3 tested inferential comprehension, and questions 4-6 tested literal comprehension. New variables were computed by adding up the scores of the questions 1-3 and 4-6. Again, lower scores mean better performance. Two separate one-way ANOVAs ($\alpha=0.05$) were conducted with 'text language' as the independent variable, the first one with 'literal score' as the dependent variable, and the second one with 'inferential score' as the dependent variable. A Bonferroni post-hoc test was run for 'text language'.

3.4. Correlation between text language and text ratings

Students indicated on a scale from 1 to 4 whether they liked each text (1 being 'Liked it very much' and 4 'Disliked it very much'). Mean rating scores for the texts were first compared across language groups using descriptive statistics. Subsequently, a new variable 'total rating texts' was computed, consisting of the rating for the two texts added up. This rating was compared between the language groups by conducting a one-way ANOVA ($\alpha=0.05$) with 'text language' again as the independent variable, and 'total rating texts' as the dependent variable.

3.5. Self-reported effect of language on performance

Students indicated on a scale from 1 to 4 how well they thought they had performed on the test (1: very good, 4: very bad). The next question was why they thought they performed this way. The answers were coded according to whether the student mentioned language or not, and whether language was considered to have had a positive or negative influence (1: language positive, 2: language negative, 3: other reason). A one-way ANOVA was conducted with 'effect of language' as the dependent variable and 'text language' as the independent variable, in order to see to what extent the children were aware of the influence of language on their performance. Descriptive statistics were analyzed in order to obtain a clearer view of the percentages of students who had indicated language as a reason for their performance.

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3.6. Correlations between language background and attitudes and performance

Effects of the variables 'favourite language to read', 'favourite language to speak', 'self-reported best language', 'most important home language' and 'most important social life language' were examined by running one-way ANOVAs with 'total score' as the dependent variable. For each variable, 'total score' was compared between students who read the text in their favorite/best/most important language and those who did not. This was done by computing a new variable (value=1 if same language, value=2 if not) and using this variable as the independent variable.

3.7. Interaction effects of language background and attitude variables

Interaction effects between the five variables described in 3.6. by conducting an ANOVA for all five variables as IV at the same time, with 'total score' as the dependent variable.

4. Results & discussion

4.1. Overall performance

When looking at the amount of right answers, there were significant differences between the languages ($F(3, 401) = 14,6, p < 0.01$). Post-hoc tests revealed that students scored highest when they had read the text in English, second in Dutch, third in Papiamentu and fourth in Spanish. The differences were significant between English and Dutch ($p < 0.05$) and between English and Papiamentu ($p < 0.01$) and Spanish ($p < 0.01$). Students scored lowest when they had read the text in Spanish and the differences with Papiamentu ($p < 0.05$), Dutch ($p < 0.01$) and English ($p < 0.01$) were all significant. The differences in performance between children who had read in Dutch and in Papiamentu, were not significant.

Also taking the 'close' answers into account revealed a slightly different picture. There were still significant differences between the language groups ($F(3, 401) = 14,4, p < 0.01$). Also, the order of the scores did not change: students still performed best in English, second in Dutch, third in Papiamentu and fourth in Spanish. Differences between English and Papiamentu ($p < 0.05$) and English and Spanish ($p < 0.01$) were still significant. The difference between English and Dutch however, lost its significance when the data were analyzed this way. Differences between Spanish and the other languages all became significant at the $\alpha = 0.01$ level. The difference between Dutch and Papiamentu was still not significant.

The difference in results between these two ways of analyzing the data shows that there is not only a difference in right and wrong answers, but that students' reading comprehension also influences whether they are close or completely wrong. All other analyses involving performance on the test were therefore conducted in the second manner, taking 'close' answers into account. This is considered to be the most nuanced, and therefore the most fair and valid, approach to measuring levels of text comprehension.

How can this pattern of performance be explained? First of all, 63.3 % of tourists have been visitors from the United States of America. This is an average percentage of between 1986 and 2011 (Ridderstaat et al., 2014). Considering that in 2012 tourism only accounted for 66.6% of the GDP and 68.0% of total employment of Aruba (Ridderstaat,

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Croes & Nijkamp, 2014), one can imagine that the use of English on the island has decreased due to American tourism. English also reaches the people in Aruba via modern media. There is no research yet on how often Arubans watch English television shows or listen to English music. However, a short assessment of the television channels that are offered with a basic television contract in Aruba, reveals that 54 of the 81 channels are for an English-speaking audience. This is 66.7% of the channels, as opposed to 9.9% for a Spanish speaking audience, 6.2% for a Dutch speaking audience, and 8.7% local Aruban channels. There is also one German and one Curaçaoan channel (Website Setar, 17-03-2015). This dominance of the English language in Aruba's economy and on Aruban television may be part of the explanation for the relatively high level of English comprehension by the students in the experiment. In other words: English is a language that is very much alive in Aruban society. Table 1 shows some results of the questionnaire for a clearer view of the role that English and other languages play in the students' lives. It shows that English comes second for most variables, except for favorite to read, where students mentioned English most often, and dominant home language, which was English for the smallest percentage of the students.

Table 1: Roles of the 4 dominant languages in students' lives

	Papiamentu	English	Dutch	Spanish
Best language	38.6 %	26.4 %	18.9 %	14.9 %
Home language	48.5 %	11.9 %	19.4 %	17.4 %
Favorite to speak	43.3 %	32.3 %	11.7 %	10.9 %
Favorite to read	10.7 %	47.0 %	35.6 %	6.0 %
Use most with friends	72.6 %	21.4 %	5.2 %	0.5 %

The results in Table 1 may be surprising, due to some considerable differences with the findings of the Censo of 2010. See Table 2 for an overview of the differences. The most striking differences are for Dutch and Papiamentu: much less students chose Papiamentu and many more chose Dutch. This can be explained by the nature of the study sample: only MAVO and HAVO-VWO students were included, not EPB students. It may be very well be the case that Dutch speaking children are overrepresented in the higher levels of education: they have an educational advantage due to higher levels of exposure to Dutch.

Table 2: Differences between findings of Censo 2010 and the present study: most important home language

	Papiamentu	English	Dutch	Spanish
Present study	48.5%	11.9%	19.4%	17.4%
Censo 2010	68 %	7%	6%	14%

4.2. Comparing total scores between MAVO and HAVO-VWO

Scores between MAVO students and HAVO-VWO students differed significantly ($F(1, 401)=22.5, p<0.01$). As expected, HAVO-VWO students scored higher than MAVO students. However, the differences were not significant for all languages. For Spanish and Papiamentu, there were no significant differences in score between the education level groups. For Dutch and English, differences were significant at the $\alpha=0.01$ level.

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The fact that the difference was not significant for Papiamentu but that it was for Dutch, is very interesting. Papiamentu is the dominant language on the island (and for these students, see Table 1). If school materials are offered to these kids in the dominant language, they do equally well. However, if school material is offered in Dutch, a foreign language, there are suddenly differences in performance on the exact same task. This finding suggests that children with equal abilities in some domains, may end up in different educational levels because of a difference in abilities in the language domain. To take this even further, one may argue that the current instruction language prevents children with other talents than language, from exploring and developing these talents at the right level.

4.3. Differentiation between literal and inferential comprehension

There were significant differences in performance for both literal comprehension ($F(3, 401)=15.6, p<0.01$) and inferential comprehension ($F(3, 401)=7.0, p<0.01$). Post-hoc tests revealed, however, that the significant differences for literal comprehension only exist between Spanish and the three other languages ($p<0.01$). There were no significant differences for literal comprehension between any of the other languages. The post-hoc results of inferential comprehension, on the other hand, show a similar pattern to students' test performance: there is a significant difference between English and Papiamentu ($p<0.01$) and English and Spanish ($p<0.01$), and a non-significant difference between English and Dutch. All other differences were insignificant.

These results suggest that the average level of Spanish of the students is so low, that they have a hard time both understanding the texts and rote learning the content. As far as the other three languages are concerned, literally remembering the texts was not the problem that caused the differences in scores: it was the deeper understanding of the text. As the goals of education obviously reach much further than rote learning (do we not want to equip these children with actual skills and knowledge?), this is an alarming finding. Children actually understand – not memorize, understand - less in the language they are being taught in (Dutch), than in English.

4.4. Correlation between text language and text ratings

Mean rating scores between the two texts did not differ at all: both texts were rated 2.09 on average. For text ratings across language groups, a pattern of significance occurs that is similar to performance: Students liked the texts significantly more in English than in Papiamentu ($p<0.05$) or Spanish ($p<0.01$). They also rated the texts higher when they had read them in English than in Dutch, but not significantly so. The exact same texts were rated significantly lower by the students who read them in Spanish, than by the ones who read them in English ($p<0.01$) or Dutch ($p<0.01$). Differences between the text ratings in other languages were not significant.

These findings show the effect of language from another perspective. Students are more interested in the contents of the text in some languages than in others. In addition, it was found that children did significantly better on the test when they were allowed to read in their favorite reading language ($F(1, 401)=26.2, p=0.01$). Consult Table 1 for an overview of the students' favorite reading languages.

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4.5. Self-reported effect of language on performance

Significant differences were found between the language groups as to whether the students mentioned language as a reason for their performance or not ($F(3, 401)=38.4, p<0.01$). The only significant differences revealed by Bonferroni post-hoc tests, were between Spanish and all other languages ($p=0.01$).

Of the students who read in Spanish, 56.8 % indicated that language was a reason for their performance, either positive or negative. 45.3% of the students who read in Spanish recognized that they did not do well because of the language. For English and Papiamentu, only low percentages of students thought of language as an influential factor (9.7% and 11.8%, respectively). From the literature described previously and from the present study, it is known that the Dutch language as a language of instruction does influence students' performance. As students are clearly not aware of this influence, they may attribute moments of failure fully to their own competence, whereas in some cases they should – at least in part- be attributed to the linguistic situation.

4.6. Correlations between language background/ language attitudes and performance

Students did significantly better on the test when...

- ... they read in their self-reported best language ($F(1, 401)=8.9, p=0.01$);
- ... they read in their favorite speaking language ($F(1, 401)=21.1, p=0.01$);
- ... they read in their favorite reading language ($F(1, 401)=26.2, p=0.01$);
- ... they read in the language they use most in their social lives ($F(1, 401)=8.8, p=0.01$);
- ... they read in their most important home language ($F(1, 401)=13.1, p=0.01$).

There seem to be no significant interaction effects between the five variables tested (???)

5. Conclusion & recommendations

The present study has compared students' text comprehension in Dutch, Papiamentu, English and Spanish. The results show that English is the reading language in which students understand most of the texts presented to them and that it is the reading language that a majority prefers. Based on these results, some recommendations can be made concerning further research and language policy. The recommendations made below are suggestions based on the existing body of research and the present study. It is important to note that more research is still to be done concerning this topic and the feasibility of the ideas presented below.

The existing literature on the linguistic situation in Aruba focuses mainly on two languages: Dutch and Papiamentu. The present study shows that this has been too narrow a focus, as English has been shown to play a large role in both Aruban society and in the students' lives. Instead of thinking of English as yet another language to deal with, it should be seen as a gateway to new opportunities for several reasons. First of all, there are many education materials in English that one could choose from. Second, Aruban students like

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English. Third, they are – already – quite good at reading in English. Also, English is important to the Aruban economy, considering its focus on tourism from the United States of America. Finally, English gives students the opportunity to study virtually everywhere in the world, including the Netherlands, where English is becoming the language of literature and instruction for more and more study programs.

Papiamentu is also a very important language to the students. Most of them prefer to speak in Papiamentu at home and to their friends, and indicate that this is their best language. As described earlier, it is important for students' feelings of self-worth and identity to value this language, also in the education system. There are very few teaching materials in Papiamentu, especially in the Aruban variety of Papiamentu, and it would be very expensive to have them made for a small population only. A solution might be to use teaching materials in another language (for instance in English), but to be less strict about the language that has to be spoken in class. The reality is that Papiamentu is used a lot in education, and that it helps the students understand the material better. If Papiamentu were to be one of the official languages of instruction in non-language classes, or if schools would officially allow the use of Papiamentu in class, not much would change in reality. It would mainly be a much more realistic policy.

Considering Aruba's ties with, and orientation towards, the Netherlands, Dutch is a language that should not be ceased to be offered in school, either as a compulsory subject or as an elective or a combination of both. In any case, it should be taught as a foreign language, not as a mother tongue, with teaching materials that match the students' level of Dutch. The reason for this is that Dutch simply is, in reality, a foreign language to the students (Beheydt, 2008).

As pointed out earlier, monolingual testing in a multilingual society is not fair, especially not in a language that is practically dead in most domains. This does not mean that monolingual testing should not be used at all. It does mean that several monolingual tests may be used to complement each other (Koch, 2007). In the case of Aruba, it could be considered to test the non-language subjects in a combination of languages, or to allow students to write up their answers in the language they prefer. In this manner, the focus will be much less on language for each subject, and more on the content. This way, students who are not particularly talented in languages, can still explore and develop their talents in other subjects, such as biology or mathematics. Of course, a specific focus on each language is necessary as well. The language classes would be more appropriate for focusing on this.

Aruba is currently struggling with high dropout rates, failure and repetition of classes, and a low general education level of around 70%. Studies that were conducted on these problems have identified Aruba's educational language policy as one of the main causes of these problems (Pereira, 2008). The same problems have been found for students who learn in a foreign language that is not very much 'alive' in their community elsewhere in the world, e.g. in Tanzania (Malekela, 2010) and South Africa (Langenhoven, 2010). It is clear that these kinds of policies are detrimental to meaningful learning, and that changes are necessary. The present study has contributed with similar findings to this body of research.

Making changes to the educational system will require collaboration of the government, researchers and the community. Decisions have to be made concerning feasibility research, the curriculum, materials to be used/bought, teacher training and implementation and evaluation of plans (Migge, Léglise, & Bartens, 2010). Adequate school

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materials and well-prepared teachers are crucial conditions for any project in this area to succeed (Migge, Léglise, & Bartens, 2010; Dijkhoff & Pereira, 2010).

The instruction language has been a subject of debate for a long time already. Through the present study, students themselves have been given a chance to contribute to this debate by showing what they are capable of in which languages, and by voicing which languages they use and prefer in which situations. Instead of continuing to discuss this matter over their heads, it is recommended that the Aruban community engage the students in the debate about their own education, both through research and open debate.

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Appendix I: Texts

And we name her: Strawberry

Not all baby names parents invent are immediately approved. Someone from the Censo decides if a name is not too strange. And what happens if parents don't agree? Then they can go to a judge. The names 'Nutella' and 'Strawberry' were banned last week in France.

'We love hazelnut paste and we love our newly born. So we call her Nutella!' Two French parents must have thought something along these lines. But the judge was scared that the girl would be bullied later in life for her name and forbade the parents to call her as such. The parents apparently didn't want to think of a completely new name, because the girl is now named 'Ella'.

Two other parents called their daughter 'Fraise' (French for 'Strawberry'). They wanted to give her a name nobody else has. The name 'Fraise' wasn't allowed, but it ultimately worked to give the girl an original name. She is now called Fraisine, a forename from the nineteenth century.



The fishbowl

In more and more restaurants and shops you can see all sorts and sizes: the fishbowl with in it one or more goldfish. Visitors sometimes throw in beer leftovers and cigarette butts. The dead goldfish are replaced daily with new ones. Goldfish can live from 20 to 40 years. In scary fishbowls they often don't manage more than a few weeks.

People unfortunately don't realize that fishbowls are terrible for fish. So what is wrong with them? In the first place the fishbowl is obviously much too small. The bowl usually contains only a few liters of water; big fishbowls sometimes contain 10 to 15 liters. That is much too small for a goldfish, which needs at least 250 liters. The small amount of water in a fishbowl doesn't only become dirty quickly, but can also quickly become too warm.

The fishbowl also doesn't offer the fish an interesting and changing living environment. They cannot hide, they cannot swim away from other fish, and cannot search for food. Finally, the fishbowl barely offers the fish any space for moving. Fish are built to swim long distances! In a fishbowl they can only turn in small circles.

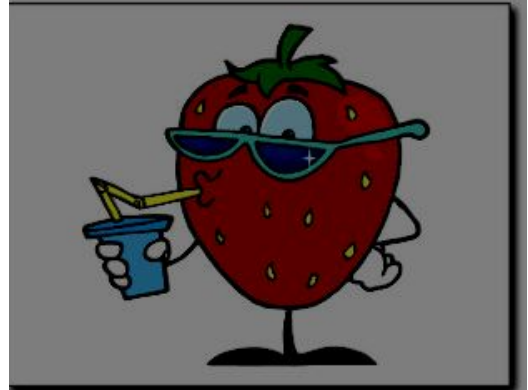
In order to care for a goldfish in the best possible way, people have to maintain a few important rules. The aquarium needs to hold a minimum of 250 liters. Also, goldfish are social animals, so they can't be alone but need to be held with approximately ten fish together. Also, an aquarium needs to have water plants, stones and a sand-like bottom.



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Y la llamaremos: Fresa

No todos los nombres de bebés que los padres inventan son aprobados inmediatamente. Alguien en el Censo es quien decide si un nombre es demasiado raro o no. ¿Y qué pasa si los padres no están de acuerdo? Entonces pueden ir al juez. La semana pasada fueron prohibidos los nombres 'Nutella' y 'Fresa' en Francia.



'Nos gusta mucho la crema de avellanas y nos encanta nuestra bebé recién nacida. ¡Pues, la llamaremos Nutella!' Algo similar debían haber pensado unos padres franceses. Pero el juez temía que la niña luego fuese víctima de bullying por tener ese nombre y prohibió a los padres que la llamaran así. Aparentemente los padres no querían pensar en un nombre completamente nuevo, porque la niña se llama ahora 'Ella'.

Otros padres habían llamado a su hija 'Fraise' (que significa 'Fresa' en Francés). Le querían dar un nombre que nadie más tenía. El nombre 'Fraise' no fue permitido, pero al final lograron dar un nombre original a la niña. Ahora se llama Fraisine, un nombre del siglo diecinueve.

La pecera

Cada vez más se puede verlas en restaurantes y tiendas en diferentes tipos y tamaños: peceras con uno o más peces dorados. En ocasiones los visitantes tiran los residuos de sus cervezas y las colillas de sus cigarrillos adentro. Los peces dorados muertos son reemplazados por nuevos diariamente. Los peces dorados pueden vivir entre 20 y 40 años. Sin embargo, en peceras espantosas no suelen aguantar más que un par de semanas.

Desafortunadamente, la gente no se da cuenta de que peceras son aterradoras para los peces. Entonces, ¿qué hay de malo en ellas? Primeramente, una pecera es por supuesto demasiado pequeña. Una pequeña contiene casi siempre un par de litros de agua, peceras grandes pueden contener de 10 a 15 litros de agua. Eso es muy poco para un pez dorado, ¡el cual necesita por lo menos 250 litros! No solamente se ensucia rápido la poca cantidad de agua en una pecera, sino también se puede volver caliente demasiado rápido.

Además, una pecera no les ofrece un hábitat interesante ni les da alternativa a los peces dorados. No se pueden esconder, no pueden nadar lejos de otros peces y además no pueden buscar alimentos. Por último, la pecera apenas le ofrece espacio al pez para moverse. ¡Los peces están hechos para poder nadar largas distancias! En una pecera solamente pueden dar pequeñas vueltas.

Para poder cuidar de un pez dorado lo mejor posible, hay que observar algunas reglas importantes. El acuario tiene que contener por lo menos 250 litros. Los peces dorados también son animales sociales y por lo tanto no se debe tener uno sino más o menos 10 peces al mismo tiempo. El acuario debe incluir también plantas acuáticas, piedras y un suelo arenoso.



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Y nos a yam'e: Strawberry

No tur number di baby cu e mayornan inventa ta wordo aproba mesora. Un persona di Censo ta dicidi si un number no ta mucho straño. Y kico ta pasa si e mayornan no ta di acuerdo cu esey? E ora nan por bay juez. Na Francia nan a prohibi e nombenan 'Nutella' y 'Strawberry' siman pasa.

'Nos gusta pasta di hazelnoot y nos stima nos yiu recién naci. Pues nos ta yama nos yiu Nutella!' Algo asina dos mayor Frances mester a pensa. Pero e juez tabatin miedo cu e mucha muhe lo wordo tenta cu su number despues y a prohibi e mayornan pa yam'e asina. E mayornan probablemente no kier a pensa ful un otro number, pasobra awor e mucha muhe yama 'Ella'.

Dos otro mayor a yama nan yiu muhe 'Fraise' ('Strawberry' na Frances). Nan kier a dun'e un number cu ningun otro hende tin. E number 'Fraise' no tabata por, pero finalmente a logra pa duna e mucha muhe un number original. Awor e yama Fraisine, un number di siglo diesnuebe.



E comchi di pisca

Cada biaha den mas restaurant y tienda bo ta mira nan den tur sorto y midi: e comchi di pisca cu un of mas pisca doranan. E bishitantenan tin biaha ta tira resto di cerbes y cabito di sigaria aden. E pisca doranan morto ta wordo remplasa tur dia pa nobo. Pisca dora por biba di 20 te 40 aña bieu. Den comchi espantoso hopi biaha nan no ta soporta mas cu un par di siman.

Lamentablemente hende no ta realisa nan mes cu e comchi di pisca ta horibel pa e piscanan. Kico ta robes anto cu ne? Na prome luga e comchi di pisca di mes ta mucho chikito. E comchi casi semper ta contene solamente un par di liter di awa, comchi di pisca grandi por contene 10 pa 15 liter di awa. Esey ta mucho poco pa un pisca dora, cu minimalmente mester di 250 liter di awa! E cantidad chikito di awa den un comchi di pisca no solamente ta bira vies lihe, pero por keinta di mas tambe hopi lihe.

E comchi di pisca no ta ofrece e pisca doranan un ambiente di bida interesante y varia. Nan no por sconde nan mes, nan no por landa bay for di e otro piscanan, y ademas nan no por busca cuminda. Finalmente apenas e comchi di pisca ta ofrece espacio pa move. Pisca ta traha pa landa distancia largo! Den un comchi solamente nan por drey den ronchi chikito.

Pa cuida un pisca dora miho posibel, hende mester tene nan mes na algun regla hopi importante. E aquario mester contene minimalmente 250 di liter. Tambe pisca dora ta bestia social, pues no mester tene un su so, pero cu mas o menos dies pisca pareu. Tambe e aquario mester tin mata di awa, piedra y un fondo cu santo.



[Geef tekst op]

En we noemen haar: Aardbei

Niet alle babynamen die ouders verzinnen worden meteen goedgekeurd. Iemand van de Censo bepaalt of een naam niet te raar is. En wat gebeurt er als de ouders het daar niet mee eens zijn? Dan kunnen ze naar de rechter. In Frankrijk werden de namen 'Nutella' en 'Aardbei' vorige week verboden.

'We houden van hazelnootpasta en we houden van ons pasgeboren kind. Dus noemen we haar Nutella!' Zoiets moeten twee Franse ouders gedacht hebben. Maar de rechter was bang dat het meisje later met haar naam gepest zou worden en verbood de ouders haar zo te noemen. De ouders wilden blijkbaar niet een hele andere naam bedenken, want het meisje heet nu 'Ella'.

Twee andere ouders noemden hun dochter 'Fraise' (Frans voor 'Aardbei'). Ze wilden haar een naam geven die niemand anders heeft. De naam 'Fraise' mocht niet, maar het is uiteindelijk gelukt om het meisje een originele naam te geven. Ze heet nu Fraisine, een voornaam uit de negentiende eeuw.



De viskom

In steeds meer restaurants en winkels zie je ze in allerlei soorten en maten staan: de viskom met daarin één of meer goudvissen. Bezoekers gooien er soms bierresten en sigarettenpeuken in. De dode goudvissen worden dagelijks door nieuwe vervangen.

[Geef tekst op]

Goudvissen kunnen wel 20 tot 40 jaar oud worden. In enge kommen houden ze het echter vaak niet langer dan een paar weken vol.

Mensen realiseren zich helaas niet dat de viskom voor de vissen vreselijk is. Wat is er dan mis mee? In de eerste plaats is de viskom natuurlijk veel te klein. De kom bevat meestal maar een paar liter water, grote viskommen kunnen 10 tot 15 liter water bevatten. Dat is veel te weinig voor een goudvis, die minstens 250 liter nodig heeft! De kleine hoeveelheid water in een viskom wordt niet alleen snel vies, maar kan ook snel te warm worden.

De viskom biedt de goudvissen ook geen interessante en afwisselende leefomgeving. Ze kunnen zich niet verstoppen, ze kunnen niet bij de andere vissen weg zwemmen, en bovendien niet naar voedsel zoeken. Tenslotte biedt de kom de vis nauwelijks bewegingsruimte. Vissen zijn erop gebouwd om lange afstanden te kunnen zwemmen! In een kom kunnen ze alleen maar kleine rondjes draaien.

Om zo goed mogelijk voor een goudvis te zorgen, moeten mensen zich aan een paar belangrijke regels houden. Het aquarium moet minstens 250 liter bevatten. Ook zijn goudvissen sociale dieren, dus ze moeten niet in hun eentje maar met ongeveer tien vissen tegelijk gehouden worden. Ook moet het aquarium waterplanten, stenen en een zandachtige bodem hebben.



[Geef tekst op]

Appendix II: Test

1. Why did two parents want to call their child 'Strawberry'?

- a) They loved strawberries and also their child, so it was logical.
- b) They found it sounds nice.
- c) They wanted to give their child a very special name.
- d) Their favorite color was red.

1. Why was the name 'Nutella' banned?

- a) Because the child may get bullied for it.
- b) The people of the Censo don't enjoy eating Nutella.
- c) Because nobody would be able to pronounce the name.
- d) Because people might laugh at the parents.

2. Imagine a name is not approved by the Censo. Where can the parents go?

- a) To the post office
- b) To the government
- c) To court
- d) To the police

3. How old do goldfish become if they live in a fishbowl?

- a) One day
- b) A few weeks
- c) A few years
- d) Between 20 and 40 years

4. What is NOT true?

- a) Fishbowls are often too small for fish.
- b) Fishbowls become dirty inside too quickly.
- c) Fishbowls are often too cold for fish.
- d) Fishbowls are not interesting enough for fish.

5. Which things definitely need to be in an aquarium?

- a) Toys for the fish and fish candy
- b) Water plants and a sand bottom

- c) Cleaning detergent and a broom
- d) Another fish and 100 liters of water

[Geef tekst op]

1. ¿Por qué querían los padres llamar 'Fresa' a su hija?
 - a) Les gustaban muchísimo las fresas y también su bebé; por lo tanto era lógico.
 - b) Les parecía que sonaba bonito.
 - c) Le querían dar un nombre extraordinario a su hija.
 - d) Su color favorito es el rojo.

2. ¿Por qué fue prohibido el nombre 'Nutella'?
 - a) La niña podría ser víctima de bullying por su nombre.
 - b) A la gente en el Censo no les gustaba comer Nutella.
 - c) Nadie podría pronunciar el nombre.
 - d) Puede ser que la gente se burle de los padres.

3. Supongamos que un nombre no sea aprobado por el Censo. ¿Adónde pueden ir los padres entonces?
 - a) A la oficina de correos
 - b) Al Gobierno
 - c) Al juez
 - d) A la policía

4. ¿Cuánto tiempo aproximadamente alcanza a vivir un pez dorado si vive en una pecera?
 - a) un día
 - b) un par de semanas
 - c) un par de años
 - d) entre los 20 y 40 años

5. ¿Qué afirmación NO es verdad?
 - a) Muchas veces las peceras son muy pequeñas para un pez.
 - b) Las peceras se ensucian demasiado rápido por dentro.
 - c) Las peceras están a menudo muy frías para un pez.
 - d) Las peceras no son lo suficiente interesantes para un pez.

6. ¿Qué cosas debe contener un acuario en todo caso?
 - a) Juguetes y caramelos para peces
 - b) Plantas acuáticas y un suelo arenoso
 - c) Productos de limpieza y una escoba
 - d) Otro pez y 100 litros de agua

[Geef tekst op]

1.

[Geef tekst op]

Pakico dos mayor kier a yama nan yiu 'Strawberry'?

- a) Nan tabata gusta strawberry masha hopi y tambe nan tabata stima nan yiu, pues tabata logico.
- a) Nan tabata haya cu e ta zona bunita.
- b) Nan kier a duna nan yiu un nomber hopi apart.
- c) Nan color favorito tabata cora.

2. Pakico a prohibi e nomber 'Nutella'?

- a) Pasobra nan por tenta e mucha podise cu ne.
- a) E hendenan di Censo no tabata haya Nutella dushi.
- b) Pasobra ningun hende no lo por pronuncia e nomber.
- c) Pasobra podise e mayornan lo por hari e muchanan.

3. Imagina bo cu un nomber keda desapropa pa Censo. Na unda e mayornan por bay e ora?

- a) Na postkantoor
- a) Na gobierno
- b) Na tribunal
- c) Na polis

4. Con bieu e pisca doranan por bira mas o menos ora nan ta biba den un comchi?

- a) Un dia
- a) Un par di siman
- b) Un par di aña
- c) Entre 20 y 40 aña

5. Kico NO ta berdad?

- a) Comchi di pisca hopi biaha ta mucho chikito pa un pisca.
- a) Comchi di pisca ta bira vies di paden mucho lihe.
- b) Comchi di pisca hopi biaha ta mucho friu pa un pisca.
- c) Comchi di pisca no ta suficiente interesante pa un pisca.

6. Kico asina sigur mester tin den un aquario?

- a) Co'i hunga pa e piscanan y mangel pa e piscanan
- b) Mata di awa y un fondo di santo
- c) Cos di haci limpi y un basora
- d) Un pisca mas y 100 liter di awa

a)

[Geef tekst op]

Waarom wilden twee ouders hun kind 'Aardbei' noemen?

1. Ze hielden erg van aardbeien en ook van hun kind, dus het was logisch.
1. Ze vonden het mooi klinken.
2. Ze wilden hun kind een hele bijzondere naam geven.
3. Hun favoriete kleur was rood.

a) Waarom werd de naam 'Nutella' verboden?

- a) Omdat het kind er misschien mee gepest zou worden.
- a) De mensen van de Censo vonden Nutella niet lekker.
- b) Omdat niemand de naam zou kunnen uitspreken.
- c) Omdat mensen de ouders misschien zouden uitlachen.

b) Stel dat een naam wordt afgekeurd door de Censo. Waar kunnen de ouders dan heen?

- a) Naar het postkantoor
- a) Naar de regering
- b) Naar de rechtbank
- c) Naar de politie

c) Hoe oud worden goudvissen ongeveer als ze in een kom leven?

- a) Eén dag
- a) Een paar weken
- b) Een paar jaar
- c) Tussen de 20 en 40 jaar

d) Wat is NIET waar?

- a) Viskommen zijn vaak te klein voor een vis.
- a) Viskommen worden te snel vies vanbinnen.
- b) Viskommen zijn vaak te koud voor een vis.
- c) Viskommen zijn niet interessant genoeg voor een vis.

e) Welke dingen moeten zeker in een aquarium?

- a) Speelgoed voor de vissen en vissensnoepjes
- a) Waterplanten en een zandbodem
- b) Schoonmaakmiddel en een bezem
- c) Nog een vis en 100 liter water

Appendix III: Questionnaire

7. Hoe vond je de tekst over de gekke namen?

Heel stom Beetje stom Best leuk Heel leuk

8. Hoe vond je de tekst over de viskom?

Heel stom Beetje stom Best leuk Heel leuk

9. Hoe denk je dat je de vragen beantwoord hebt?

Heel slecht Beetje slecht Best goed Heel goed

10. Kijk naar je antwoord van 9. Hoe denk je dat dit komt?

11. Welke talen spreek je?

12. Welke taal spreek je thuis **het meest**?

13. Welke taal **lees** je het **meest** in de les op school?

14. Welke taal **spreken je docenten** het meest in de les op school?

[Geef tekst op]

15. Welke taal spreek je het meest **in de pauze** op school?

16. Welke taal ken je het beste?

17. Welke taal **spreek** je het liefst?

18. Welke taal **lees** je het liefst?

19. In welk land ben je geboren?

20. Hoe lang heb je **in totaal** op Aruba gewoond?

21. Welke taal (of talen) werden gebruikt **in de les** op jouw basisschool?

22. Wil je nog iets zeggen over de teksten of de vragen?

Heel erg bedankt voor je medewerking!

Appendix IV: Instruction document

Vorbereiding leerlingen

Wat ze moeten/mogen weten:

- Ik ben Florianne, ik ben drie maanden op Aruba, en ik mag hier een onderzoek doen voor mijn studie. Ik studeer psychologie.
- Het onderzoek duurt tussen een kwartier en een half uurtje.
- Voor het onderzoek gaan ze een leuke, korte tekst lezen.
- Ze krijgen een paar vragen over de inhoud van de tekst. Dit is GEEN toets, ze krijgen GEEN cijfer.
- Alles is anoniem: nergens hoeft een naam op. Ik ben de enige die de antwoorden zal zien, dus docenten, ouders en schoolleiding zullen niet weten wat ze geantwoord hebben. Bottomline: de resultaten zijn alleen belangrijk voor mijn onderzoek, de leerlingen zelf hoeven zich niet druk te maken.
- Ze krijgen daarna nog een andere vragenlijst, waarop ze bijvoorbeeld kunnen vertellen wat ze van de tekst vonden.

Vertel ze, omwille van de betrouwbaarheid van het onderzoek, alstublieft nog NIET:

- Dat ik naast psychologie ook taalwetenschap studeer.
- Dat het onderzoek over taal gaat.
- Dat de tekst in vier talen gelezen gaat worden.
- Waar de teksten over gaan.

Dit zal tijdens en na het experiment allemaal duidelijk worden, en de resultaten van het onderzoek mogen ze uiteraard allemaal weten. Begin april zullen deze bekend zijn.

[Geef tekst op]